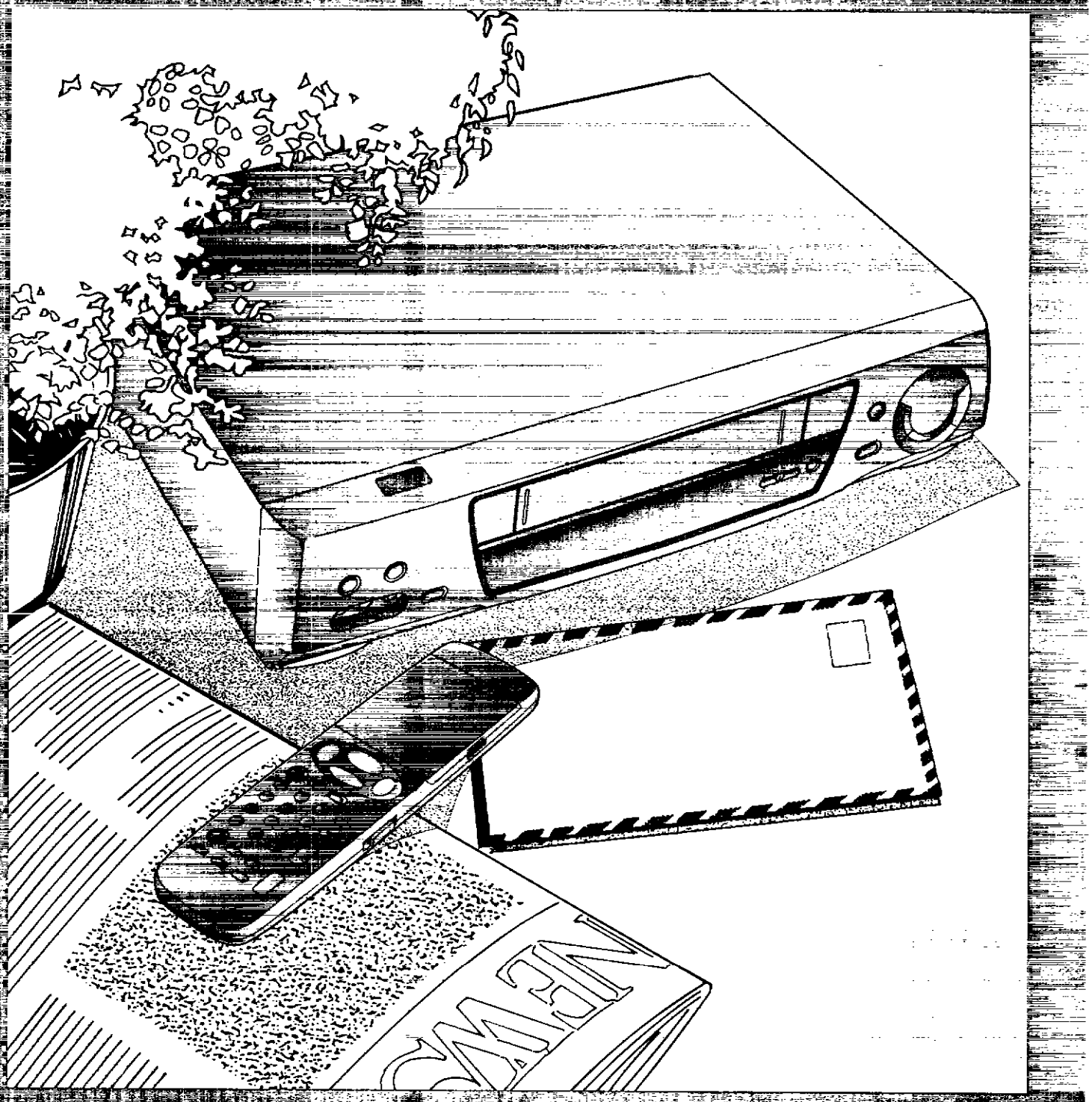
Video Cassette Recorder

Panasonic NV-HD625B

Operating Instructions



VIDEO Plus+

NEXT VIEW LINK

VHS PAL

SUPER DRIVE
MULTI-INTELLIGENT CONTROL

Before attempting to connect, operate or adjust this product, please read these instructions completely.

TKB24

Dear Customer

May we take this opportunity to thank you for purchasing this Panasonic Video Cassette Recorder.

We would particularly advise that you carefully study the Operating Instructions before attempting to operate the unit and that you note the listed precautions.

Download from TV

If the VCR is connected to **a TV equipped with "NEXTVIEWLINK", "Easy Link" or "Megalogic" facility using the fully-wired 21-pin scart cable**, it is possible to copy the same tuning information from the TV to the VCR.

Direct TV REC

If the VCR is connected to **a TV equipped with "NEXTVIEWLINK", "Easy Link" or "Megalogic" facility using the fully-wired 21-pin scart cable**, it is possible to record the same programme which you are watching on the TV, by simply pressing the **DIRECT TV REC** button.

Satellite Receiver Control

This unit enables the satellite receiver's channels to be selected and the programming of satellite broadcasts using the timer to be controlled.
For assured satellite receiver control, **Satellite Settings** must be performed at the installation stage.
These settings are supported only by the satellite receivers found on the attached list of compatible satellite receivers.

Video Plus+ Programming System

Programming is now easier than ever: simply enter the PlusCode provided in the programme schedule column carried by newspapers and magazines.

- Video Plus+ and PlusCode are trademarks of Gemstar Development Corp. Video Plus+ system is manufactured under license from Gemstar Development Corporation.

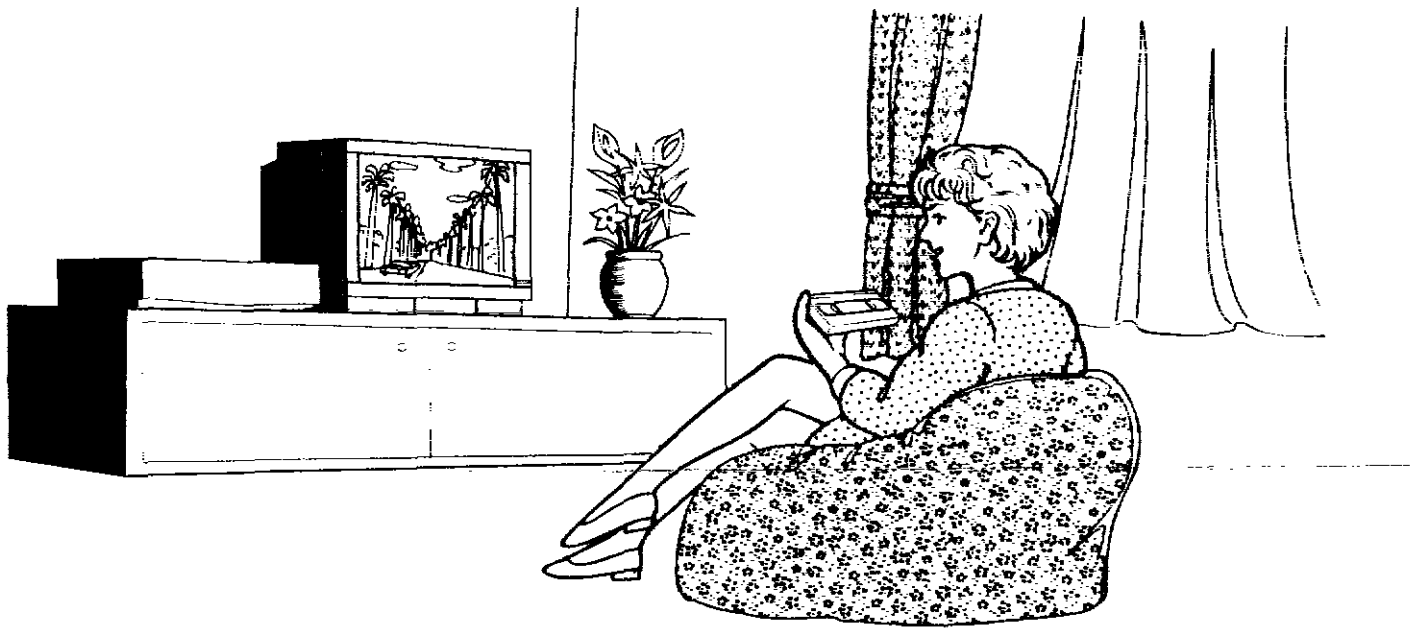
Crystal View Control

Introducing Crystal View Control, and innovative new technology for high picture quality. This technology uses a microprocessor to intelligently control the relationship between the tape heads and circuitry, bringing out the maximum performance of each. The result is consistently optimum picture quality.

PDC (Programme Delivery Control)

What is PDC?

PDC is a signal system transmitted by TV broadcasters to control the start and stop time of each programme. This signal is used by the VCR to control the start and stop time of programmed timer recordings.
PDC is particularly useful when the broadcaster changes the time for a programme from the published time, the VCR's timer recording start and stop time will be controlled by the broadcaster, e.g. when the programme is delayed or extended. Recording can also be interrupted by the broadcaster, e.g. news flash, and resumed when the programme restarts.
At present PDC transmission does not cover all areas and stations in the UK, please check with the broadcasters in your area for details.



IMPORTANT

Your attention is drawn to the fact that the recording of pre-recorded tapes or discs or other published or broadcast material may infringe copyright laws.

WARNING

TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

As this equipment gets hot during use, operate it in well ventilated place; do not install this equipment in a confined space such as a book case or similar unit.

FOR YOUR SAFETY

■ **DO NOT REMOVE OUTER COVER.**
To prevent electric shock, do not remove cover. No user serviceable parts inside. Refer servicing to qualified service personnel.

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Caution for AC Mains Lead

For your safety please read the following text carefully

This appliance is supplied with a moulded three pin mains plug for your safety and convenience.
A 5 amp fuse is fitted in this plug.
Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5 amps and that it is approved by ASTA or BSI to BS 1362.
Check for the ASTA mark ⓐ or the BSI mark ⓑ on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.
If you lose the fuse cover the plug must not be used until a replacement cover is obtained.
A replacement fuse cover can be purchased from your local Panasonic Dealer.

IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY.
THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13 AMP SOCKET.

If a new plug is to be fitted please observe the wiring code as shown below.
If in any doubt please consult a qualified electrician.

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:

Blue:	Neutral
Brown:	Live

As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:
The wire which is coloured BLUE must be connected to the terminal in the plug which is marked with the letter N or coloured BLACK.

The wire which is coloured BROWN must be connected to the terminal in the plug which is marked with the letter L or coloured RED.

Under no circumstance should either of these wires be connected to the earth terminal of the three pin plug, marked with the letter E or the Earth Symbol ⏚.

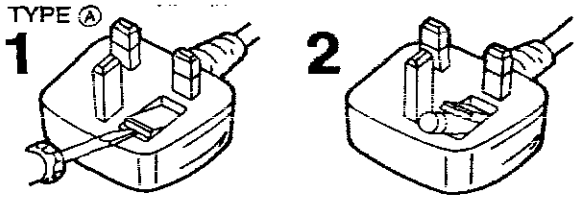
How to replace the Fuse

- There are two types of the AC Mains Lead assembly: Ⓐ and Ⓑ as shown below.

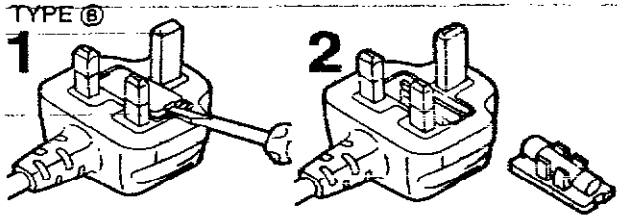
1 Open the fuse compartment with a screwdriver.

2 Replace the fuse and fuse cover.

TYPE Ⓐ

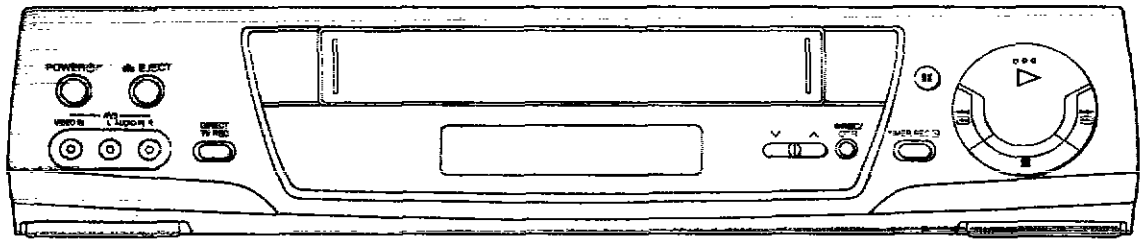


TYPE Ⓑ

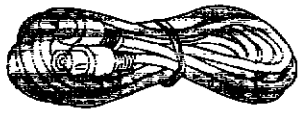


Unpacking

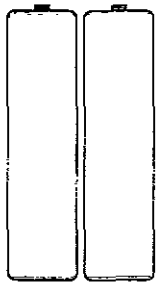
Check and identify the supplied accessories, and then set up this VCR after reading "Setting up".



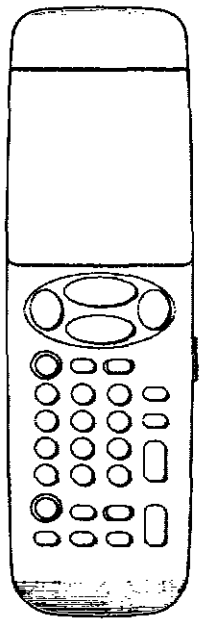
☐ RF coaxial cable for connecting between this VCR and a TV (1 pc.) VJA0728-A or VJA0963-A



☐ Batteries for the remote controller (2 pcs.) UM3 or R6 type

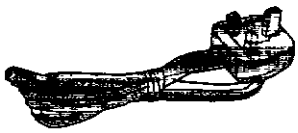


☐ Remote controller (1 pc.) VEQ1951

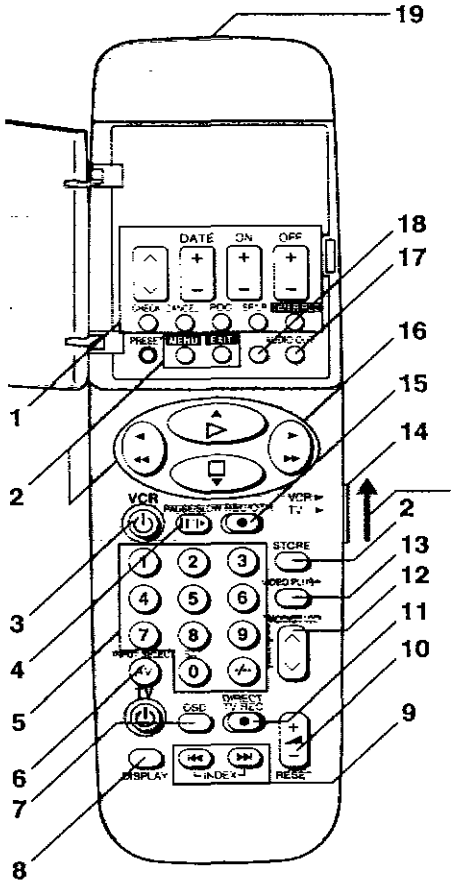


☐ Jack Cover (1 pc.) VKF2710

☐ AC mains lead (1 pc.) VJA0733 or VJA0940



Infra-red Remote Controller



Set the **VCR/TV** switch to **VCR** to use the ∨ ∧, **RESET**, **INPUT SELECT** and the **numeric buttons**.

VCR OPERATION

1 Timer Recording Operation Buttons

∨ ∧, DATE, ON, OFF:
To programme a timer recording.

CHECK:
To check timer programmes.

CANCEL:
To cancel timer programmes.

PDC:
To set the PDC recording option or cancel the option.

SP/LP:
To select the tape speed desired for recording.
SP gives the best picture quality.
LP gives the longest recording time.

TIMER REC:
To turn the timer recording function on and off.
⏲ is lit or not lit.
Once operating timer recording function, the normal VCR operation is not possible unless this button is set to off.

2 On Screen Display Menu Operation Buttons

The buttons with the green characters are used for the on screen display menu operation.

MENU: To make On Screen Display **Main Menu** appear on the TV screen.
EXIT: To exit the menu.
STORE: To confirm the selection, or to store.
▲ ▼ ◄ ►: To make selections from On Screen Display.
- The ↑ ↓ → ← symbols appearing on the TV screen's OSD display denote the remote control's cursor buttons (**▲ ▼ ► ◄**).
- These buttons can also be used for the playback, stop rewind and fast forward mode.

3 VCR ⏻

Press to switch the VCR from on to standby mode or vice versa. In standby mode, the VCR is still connected to the mains.

4 PAUSE/SLOW

During playback:
- When pressed once: Still picture. "▯▯" is lit.
- When pressed for 2 seconds or more: Slow playback. "▯▷" is lit.

During recording: To interrupt recording.

5 Numeric Buttons
Ensure that the **VCR/TV** switch is set to **VCR**.
- To select the programme positions (1–99) of the VCR.

9: (9)

19: (-/--) → (1) → (9)

- To select the satellite programme positions (SAT1–SAT99).

SAT 9: (SAT 0) → (SAT 0) → (9)

SAT 19: (SAT 0) → (1) → (9)

- To enter a PlusCode.

6 INPUT SELECT
To select the A1, A2 or A3 extermal recording source.
- *Ensure that the* ***VCR/TV*** *switch is set to* ***VCR.***

7 OSD
For the On Screen Display function.

8 DISPLAY:
To change the indication on the VCR Display.

→Clock→Counter→Remaining Tape Time→

9 INDEX
For the index search function.

10 RESET
To reset the tape counter (elapsed time) to "0:00.00".
- The button performs the resetting function only when the "–" side is pressed.
- The tape counter is automatically reset to "0:00.00" when a video cassette is inserted.
- Ensure that the **VCR/TV** switch is set to **VCR.**

11 DIRECT TV REC
For the Direct TV REC function.

12 ∨ ∧, TRACKING/V-LOCK
To select the required programme position (TV station) of the VCR.

For the tracking adjustment and vertical locking adjustment
- For manual tracking adjustment
  The ∨ (–) and ∧ (+) buttons are used to adjust the tracking when, for example, noise bars on the picture during normal playback are better removed manually than by automatic digital tracking control. Press both buttons down at the same time to return to automatic digital tracking control.
- For slow tracking adjustment
  When noise bars appear during still or slow playback, switch over to slow playback and adjust with the ∨ (–) or ∧ (+) button to reduce the noise bars.
- For vertical locking adjustment
  Use the ∨ (–) and ∧ (+) buttons to minimize any vertical jitter during still picture playback.

Ensure that the **VCR/TV** switch is set to **VCR.**

13 VIDEO PLUS+
For the Video Plus+ programming.

14 VCR/TV switch
VCR: To select the VCR operation mode.
TV: To select the TV operation mode.

15 REC/OTR
To start a recording.
For One-Touch Recording (OTR).

16 ◄◄ (REWIND)
In the stop mode: To rewind the tape.
In the playback mode: To search backward.
In the rewind mode: To obtain high speed picture.
"◁◁" is lit.

> (PLAY)
To start playback. "▷" is lit.

►► (FAST FORWARD)
In the stop mode: To fast forward the tape.
In the playback mode: To search forward.
In the fast forward mode: To obtain high speed picture.
"▷▷" is lit.

□ (STOP)
To stop any playback or recording.

17 AUDIO OUT
To select the desired sound mode.
At the every push of this button, the audio output mode changes as follows.

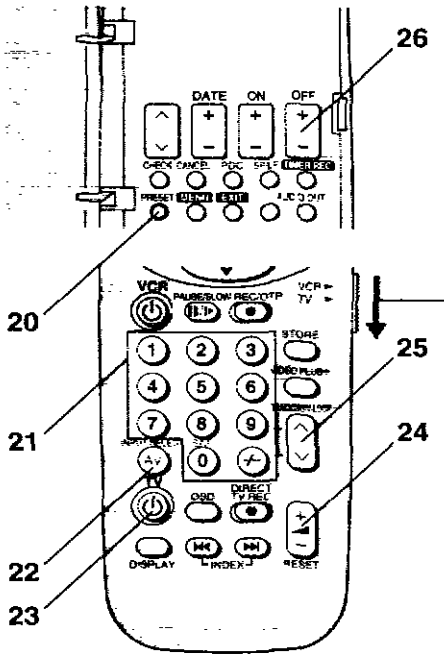
→Stereo→Left→Right→Normal audio track→

The Left (L) and Right (R) Indicators shown which sound mode is selected in the following way.
Stereo: Both the L and R Indicators appear.
Left: The L indicator appears.
Right: The R indicator appears.
Normal: Both the L and R Indicators don't appear.

18 This button is not used to operate this VCR.

19 Infra-red Transmitter

TV OPERATION



20 PRESET
To set the remote controller for operation of the TV. Refer to page 43.

21 Numeric Buttons
To select programme positions (1–99) of the TV.
- Ensure that the **VCR/TV** switch is set to **TV**.

22 AV
To select TV input.
- Ensure that the **VCR/TV** switch is set to **TV**.

23 TV ⏻
Press to switch the TV from on to standby mode or vice versa. In standby mode, the TV is still connected to the mains.
- With some TV models, it may only be possible to switch the TV to the standby mode using the button. In this case, use the **numeric butons**, **AV** or ∨ ∧ to switch the TV on.

24 ◢
To adjust the volume of the TV.
- Ensure that the **VCR/TV** switch is set to **TV**.

25 ∨ ∧
To select the required programme position (TV station) of the TV.
- Ensure that the **VCR/TV** switch is set to **TV**.

26 OFF
To set the remote controller for operation of the TV. Refer to page 43.

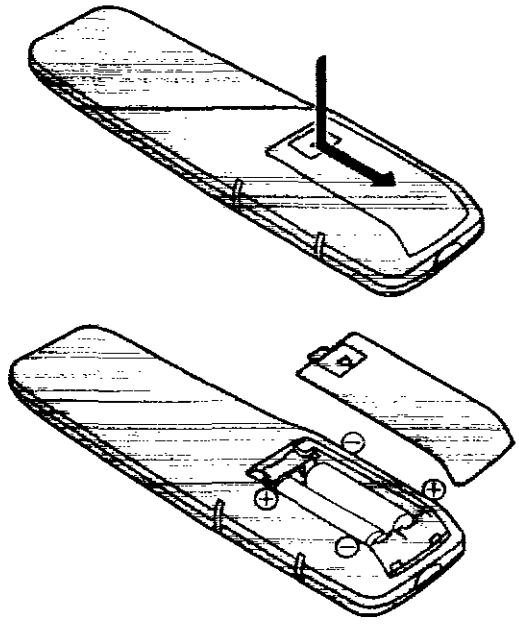
Power Source for the Remote Controller

The remote controller is powered by 2 "AA", "UM3" or "R6" size batteries. The life of the batteries is about one year, although this depends on the frequency of use.

Precautions for Battery Replacement

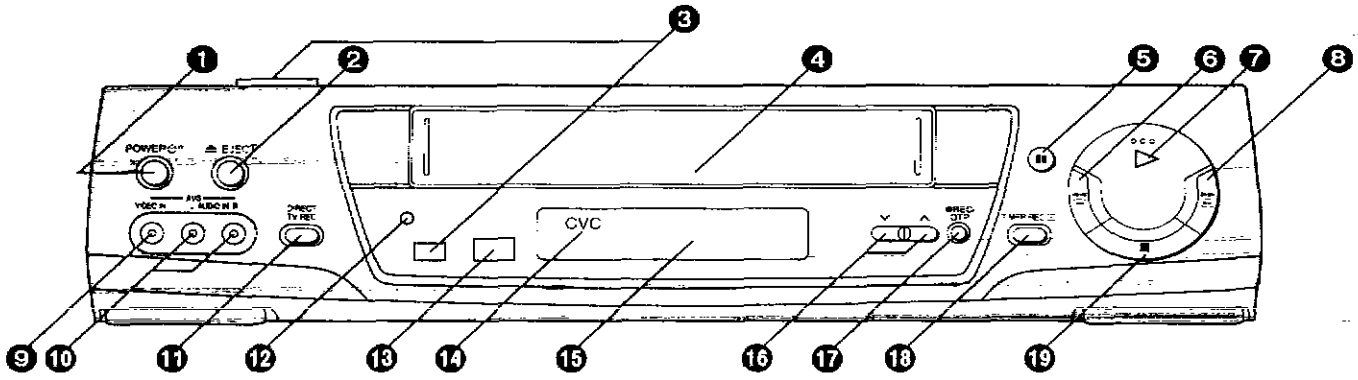
- Load the new batteries with their polarity (⊕ and ⊖) aligned correctly.
- Do not apply heat to the batteries, or an internal short-circuit may occur.
- If you do not intend to use the remote controller for a long period of time, remove the batteries and store them in a cool and dry place.
- Remove spent batteries immediately and dispose of them.
- Do not use an old and a new battery together, and never use an alkaline battery with a manganese battery.

Installing the Batteries



Controls and Connection Sockets

This gives a detailed explanation of the function of each button and connection socket.



FRONT

❶ **POWER ⏻/I**
Press to switch the VCR from on to standby mode or vice versa. In standby mode, the VCR is still connected to the mains.

❷ **EJECT**
To eject a video cassette.

❸ **Infra-red Signal Transmitter**
Signals are sent from here to the receiver when using this unit to control one of the satellite receivers found on the attached list of compatible satellite receivers. For assured satellite receiver control, **Satellite Settings** must be performed at the installation stage.

❹ **Cassette Compartment**
Insert a video cassette here.

❺ **II (PAUSE/STILL)**
During playback: Still picture.
During recording: To interrupt recording.

❻ **◀◀ (REWIND)**
In the stop mode: To rewind the tape.
In the playback mode: To search backward.
In the rewind mode: To obtain high speed picture.
"<◁" is lit.

❼ **> (PLAY)**
To start playback. ">" is lit.

❽ **▶▶ (FAST FORWARD)**
In the stop mode: To fast forward the tape.
In the playback mode: To search forward.
In the fast forward mode: To obtain high speed picture.
">▷" is lit.

❾ **VIDEO IN (AV3)**
To connect the video cable to a movie camera or to another VCR.

❿ **AUDIO IN (AV3)**
To connect the audio cable to a movie camera or to another VCR.
Use the L connector for operations in the normal (monaural) mode.

⓫ **DIRECT TV REC**
For the Direct TV REC function.

⓬ **Standby Indicator**
This indicator is lit when the VCR is turned off or the VCR is timer recording standby mode.

⓭ **Infra-red Remote Control Receiver Window**

⓮ **CVC (Crystal View Control) Indicator**
Indicates that the CVC function is active.
This indicator is always lit when the power is on.

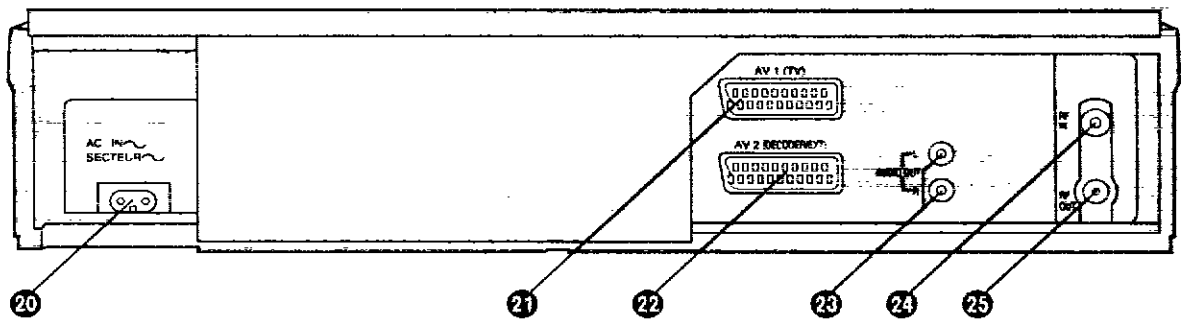
⓯ **Display**

⓰ **∨ ∧**
To select the required programme position (TV station).
- These buttons can also be used for the tracking adjustment and vertical locking adjustment.

⓱ **REC/OTR**
To start a recording.
For One-Touch Recording (OTR).

⓲ **TIMER REC**
To turn the timer recording function on and off.
⏲ is lit or not lit.
Once operating timer recording function, the normal VCR operation is not possible unless this button is set to off.

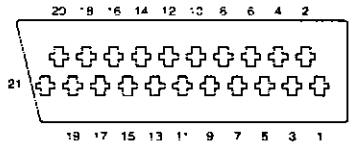
⓳ **■ (STOP)**
To stop any playback or recording.



REAR

20 AC IN~
To connect to the main power supply.

21 AV1 (TV)
This 21-pin scart terminal carries input and output signals for both picture and sound. TV sets equipped with a similar socket can be connected here.
This is also called Scart
Peritel
Euro Connector
Euro AV



1	AUDIO OUTPUT	13	RED GROUND
2	AUDIO INPUT	14	BLANKING GROUND
3	AUDIO OUTPUT	15	RED
4	AUDIO GROUND	16	BLANKING
5	BLUE GROUND	17	VIDEO OUTPUT GROUND
6	AUDIO INPUT	18	VIDEO INPUT GROUND
7	BLUE	19	VIDEO OUTPUT
8	SWITCHING VOLTAGE	20	VIDEO INPUT
9	GREEN GROUND	21	GROUND
10	CONTROL SIGNAL		
11	GREEN		
12	No connection		

Note:
RED, GREEN and BLUE (RGB) signals are loop-through only, not from tape playback, E.G. when connecting to a pay TV decoder.

22 AV2 (DECODER/EXT)
To connect to a decoder, another VCR or a satellite receiver.
•Only used as the input socket.

23 AUDIO OUT
To connect the audio cable to a stereo audio system.

24 RF IN
To connect to the external aerial.

25 RF OUT
To connect to the aerial terminal on a TV set.

Note:
A satellite receiver should normaly be connected to AV1 terminal.
AV2 can be used for connection to satellite receiver, but **AV2 Connection** on the MENU must first be set to **VCR/SAT**. (See page 41.)

Setting Up

Connections

This tells you how to connect with an aerial, TV, etc.

Tuning the TV to your VCR

The VCR supplies signals to the TV via an RF coaxial cable (supplied) or a 21-pin scart cable (not supplied). The RF output channel for use by the VCR to playback tapes or view TV programmes is automatically set during Auto Setup and indicated on the VCR display to aid TV tuning to the VCR channel.
Your TV must be tuned into this channel in order to view the playback picture.

If the connection to the TV includes the 21-pin scart cable, the playback picture can be viewed by selecting AV on your TV.

Preset Download

If the VCR is connected to **a TV equipped with "NEXTVIEWLINK", "Easy Link" or "Megalogic" facility using the fully-wired 21-pin scart cable**, it is possible to copy the same tuning information from the TV to the VCR.

Auto Setup

When the VCR is connected to a TV without "NEXTVIEWLINK", "Easy Link" or "Megalogic" facility, Auto setup (Auto tuning and Auto clock setting) is started automatically.

Satellite Settings

Satellite Setting
Teaching the VCR your satellite channels
How to select the satellite channel

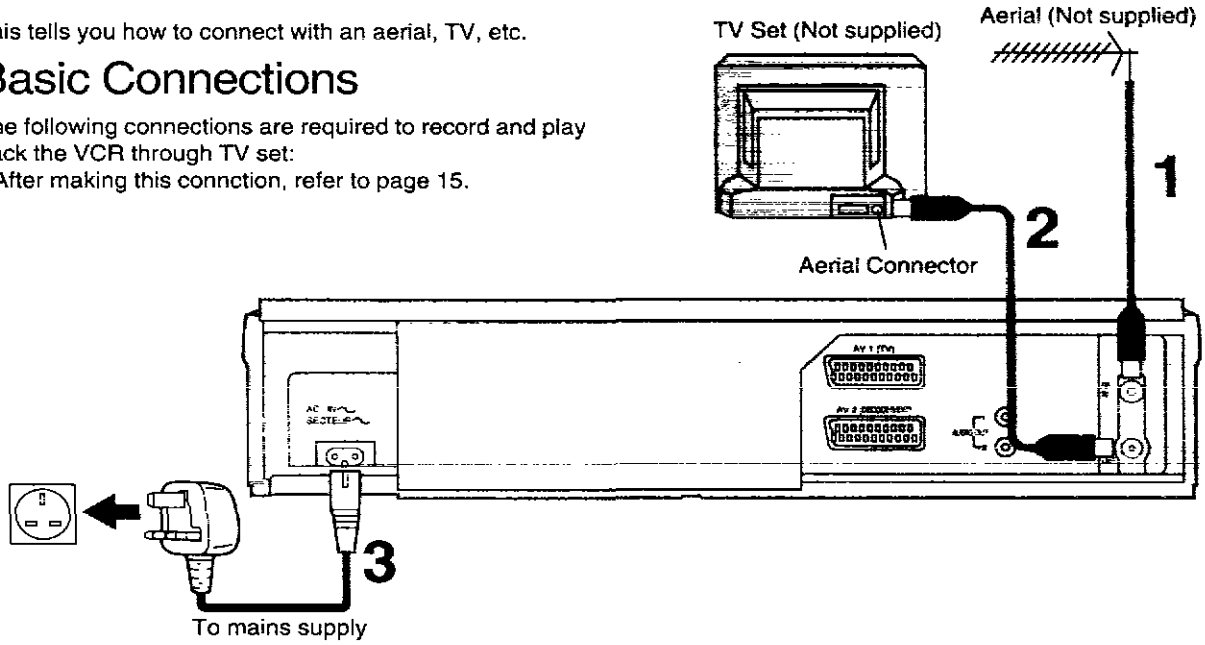
Connections

This tells you how to connect with an aerial, TV, etc.

Basic Connections

The following connections are required to record and play back the VCR through TV set:

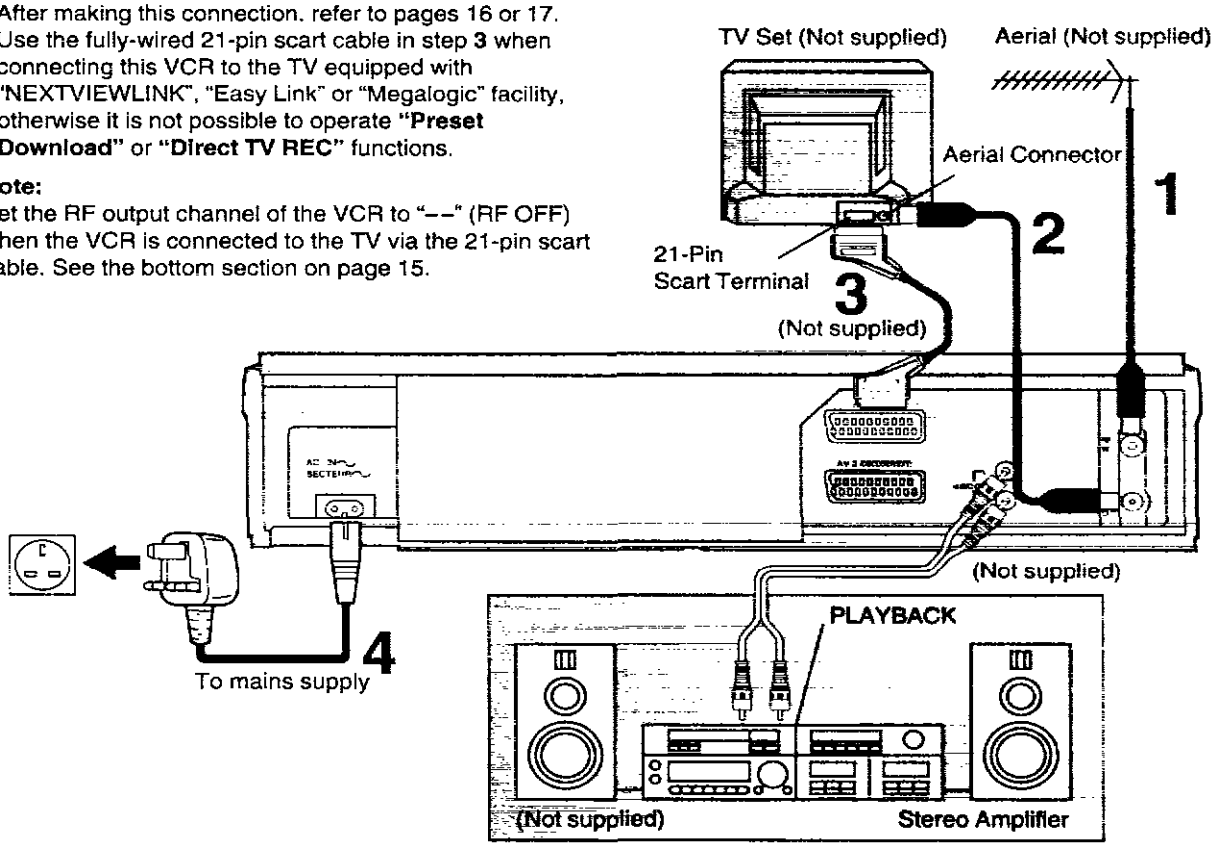
- After making this connction, refer to page 15.



Connection to a TV Set with 21-Pin Scart Terminal

- After making this connection. refer to pages 16 or 17.
- Use the fully-wired 21-pin scart cable in step **3** when connecting this VCR to the TV equipped with "NEXTVIEWLINK", "Easy Link" or "Megalogic" facility, otherwise it is not possible to operate **"Preset Download"** or **"Direct TV REC"** functions.

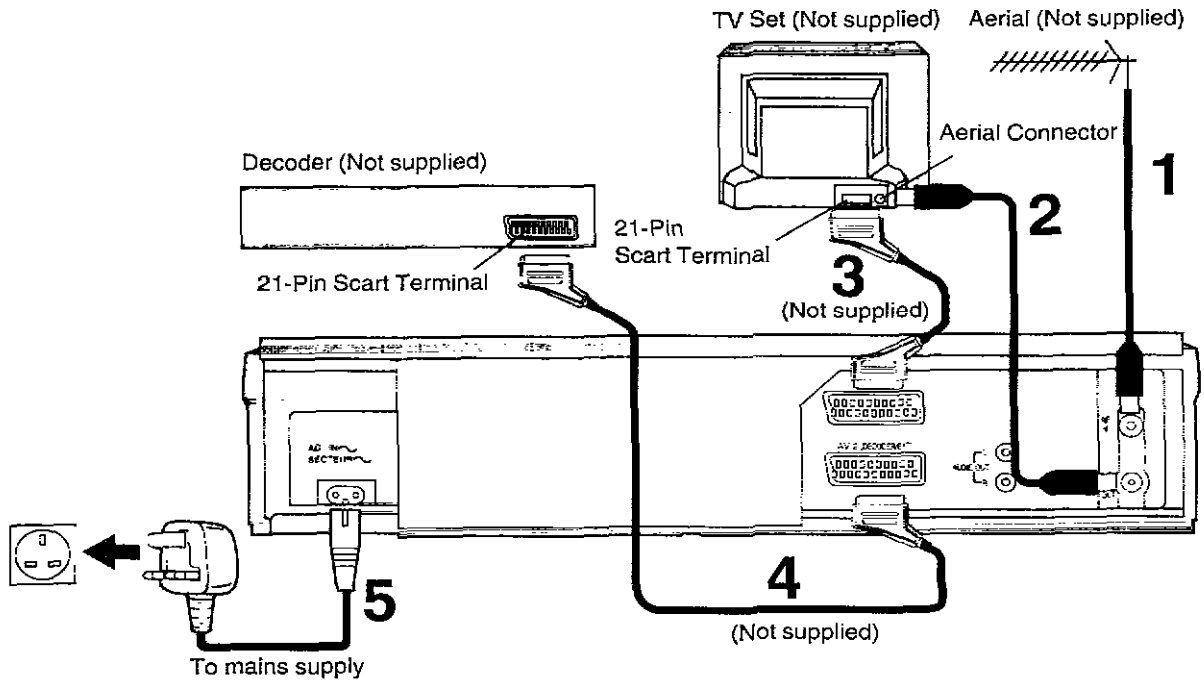
Note:
Set the RF output channel of the VCR to "--" (RF OFF) when the VCR is connected to the TV via the 21-pin scart cable. See the bottom section on page 15.



• Connection to a Stereo Amplifier

Connection to a Decoder

- After making this connection, refer to pages 16 or 17.



Notes:

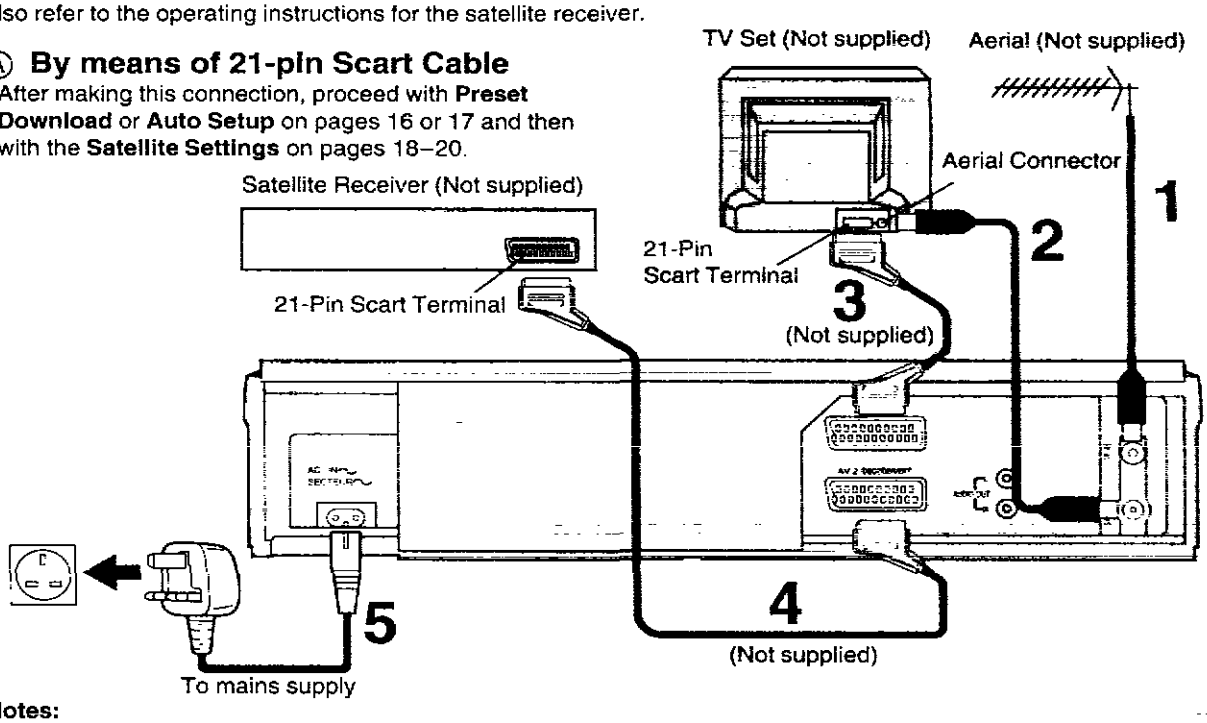
- "RGB" is an abbreviation for "RED/GREEN/BLUE" signals. If the TV with RGB input capability is connected to AV1 and the unit with RGB output capability is connected to AV2, the TV can receive RGB signal from the unit through the VCR.
- Use fully-wired 21-pin scart cable for the connection.
- Selection of RGB or normal video output is done by the external equipment connected to AV2 terminal.
- Set the RF output channel of the VCR to "--" (RF OFF) when the VCR is connected to the TV via the 21-pin scart cable. See the bottom section on page 15.
- When the decoder is connected to the AV2 socket, **AV2 Connection** must first be set to **DECODER**. (See page 41.)

Connection to a Satellite Receiver

Also refer to the operating instructions for the satellite receiver.

Ⓐ By means of 21-pin Scart Cable

- After making this connection, proceed with **Preset Download** or **Auto Setup** on pages 16 or 17 and then with the **Satellite Settings** on pages 18–20.

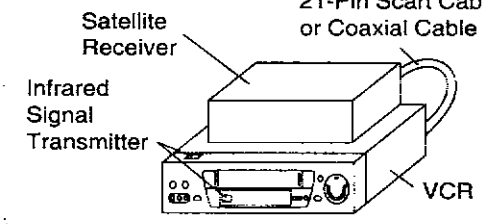


Notes:

- Set the RF output channel of the VCR to "--" (RF OFF) when the VCR is connected to the TV via the 21-pin scart cable. See the bottom section on page 15.
- When a decoder is to be connected in addition to the satellite receiver, read the Operating Instructions accompanying the decoder.
- When the satellite receiver is connected to the AV2 socket, ensure that **AV2 Connection** is set to **VCR/SAT**. (See page 41.)

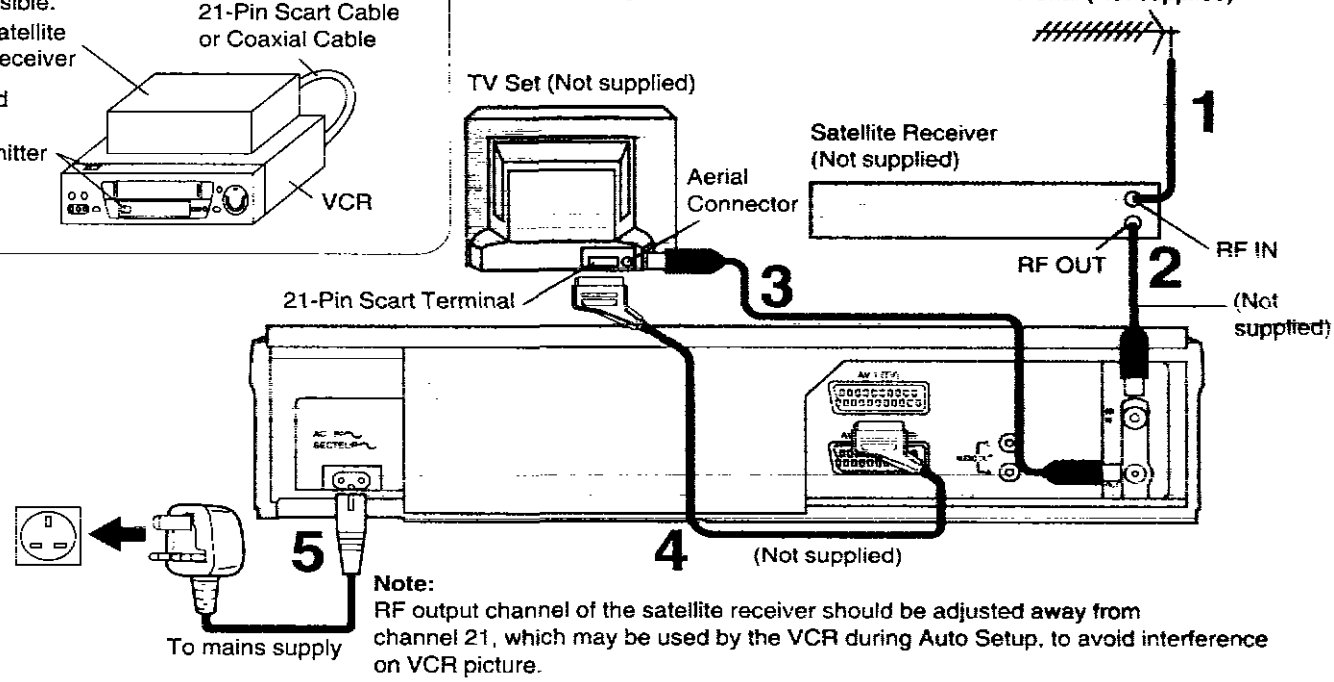
How to Install

We recommend that the satellite receiver be placed on top of the VCR, positioned so that the infrared signal transmitter is clearly accessible.



Ⓑ By means of RF Coaxial Cable

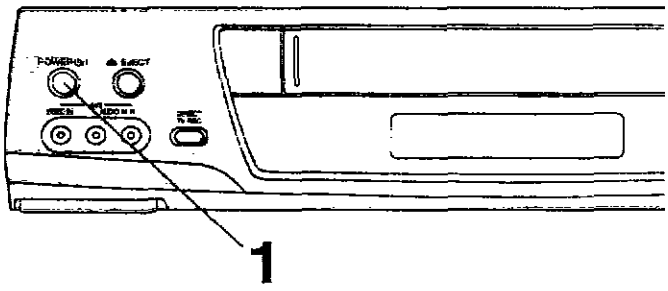
- After making this connection, proceed with **Preset Download** or **Auto Setup** on pages 16 or 17 first, and then with **Satellite Tuning Manually** on page 38 and the **Satellite Settings** on pages 18–20.

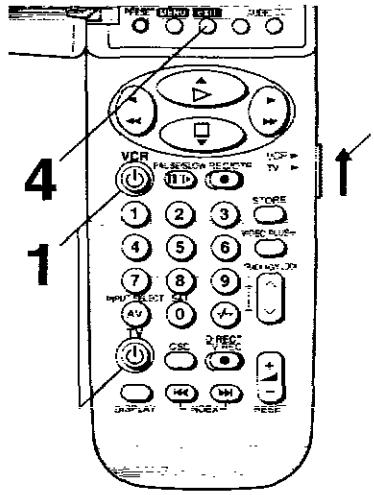


Note:

RF output channel of the satellite receiver should be adjusted away from channel 21, which may be used by the VCR during Auto Setup, to avoid interference on VCR picture.
(Refer to your satellite receiver's instruction book.)
Also select "SKY ONE" or "SKY NEWS" on the satellite receiver to ensure reliable tuning before starting the Auto Setup.

Tuning the TV to your VCR





Set the **VCR/TV** switch to **VCR** to use the ∨ ∧ and the **numeric buttons**.

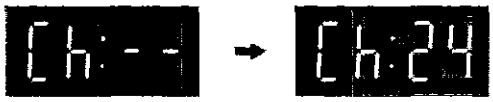
The VCR supplies signals to the TV via an RF coaxial cable (supplied) or a 21-pin scart cable (not supplied).
It is possible to view the video picture on your TV in the same way that you watch TV broadcasts.
If you have connected the VCR to the TV through the 21-pin scart terminal, then you do not need to follow the procedure mentioned below.

Operations

1 VCR TV

Turn on the VCR and TV.

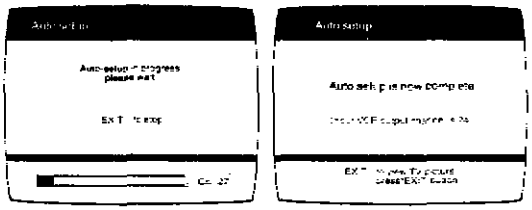
2 **VCR Display** **Example:**



VCR will start Auto-setup and search for an unoccupied channel for use by the VCR to playback tapes or view TV programmes.
When this is done, the RF output channel will be displayed on the VCR.

- Check that the number of the RF output channel has appeared on the VCR display and then proceed as follows.

3 **On Screen Display**



(During Auto setup) (After Auto Setup)

Set the TV to an unused programme position, such as "0", then tune the TV to the channel number indicated on the VCR (refer to the operating instructions for your TV).
You should then be able to see the screens similar to those shown on the left.

- On Panasonic TV the programme number 0 should be selected to obtain best performance.
- When the VCR is turned on after connecting the aerial lead and the mains lead, Auto setup (Auto tuning and Auto clock setting) starts. (See page 17.)

4 EXIT

Press **EXIT** to leave this screen.

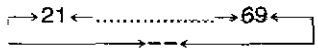
- In some rare cases after Auto-setup, interference may be visible on the picture. To avoid the interference, you can manually adjust the RF output channel a few steps up or down from the current setting.

To change the RF output channel setting, use the remote controller:

1 Keep **MENU** pressed for 5 seconds or more.
- The VCR display changes as in step 2 and the VCR picture on the TV displays this test pattern.

2 Enter the desired channel number (21–69) by using the **numeric buttons** or the ∨ ∧ buttons.
3 Press **STORE** to finish the setting mode.
- Retune your TV to the new RF channel for the VCR.

To set the RF output channel of the VCR to "––" (RF OFF) when the VCR is connected to the TV via the 21-pin scart cable:
Press the **"0" numeric button** or the ∨ ∧ buttons to display "––".

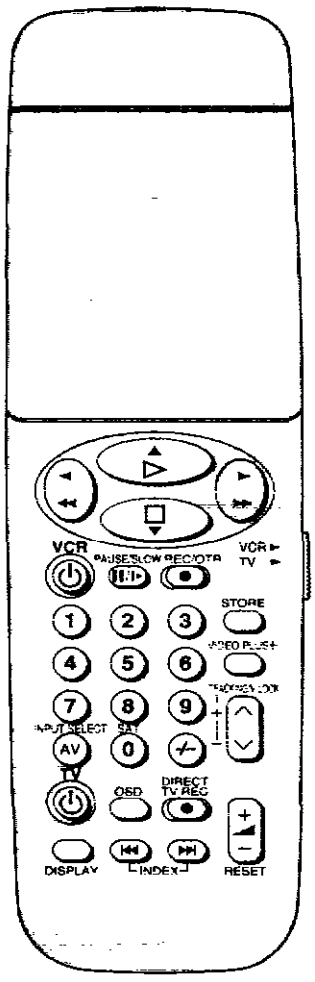


(RF OFF)

Preset Download

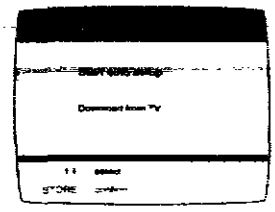
Preset Download

When connecting the VCR to **a TV equipped with "NEXTVIEWLINK", "Easy Link" or "Megalogic" facility using the fully-wired 21-pin scart cable**, the tuning information can be copied (download) to the VCR from the TV so that the VCR will be tuned to the same stations as your TV.



When the VCR has been turned on after connecting to the TV equipped with "NEXTVIEWLINK", "Easy Link" or "Megalogic" facility using the fully-wired 21-pin scart cable, the On Screen Display appears as follow.

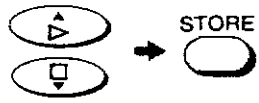
On Screen Display

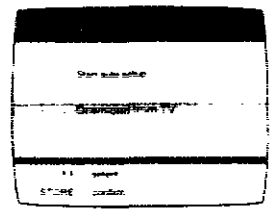


Select **Downlord from TV**.

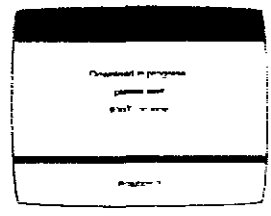
- When performing **Manual Tuning** described hereafter on page 36, be sure to select **Start auto setup**. This is because when the tuning contents for the TV are changed, this information is downloaded to the VCR again, possibly erasing the independent contents input by Manual Tuning.

Press **STORE** to access.





- Download is started automatically.



- When the downloading has finished, Short Auto Setup is started automatically.

- When Short Auto Setup has finished, the lowest channel position at which a broadcast can be tuned in is received.

Note:

Downloading does not work when the VCR is connected to a TV equipped with "NEXTVIEWLINK", "Easy Link" or "Megalogic" facility but without a fully-wired 21-pin scart cable or a TV without the "NEXTVIEWLINK", "Easy Link" or "Megalogic" capability, or connection by RF coaxial lead only.

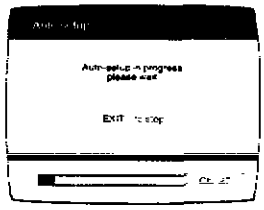
In this case, perform **Auto Setup** on the next page.

Auto Setup

Auto Setup

When the VCR is connected to a TV without "NEXTVIEWLINK", "Easy Link" or "Megalogic" facility, Auto setup is started automatically.
When the VCR is turned on after connecting the aerial lead and the mains lead, Auto setup (Auto tuning and Auto clock setting) starts.

On Screen Display



- The Auto setup is searching for TV station from minimum to maximum and memorizing the data for every programme position.
- The Auto setup takes two or more minutes to complete the search for TV station and the clock setting.
- If the clock setting screen appears after auto setup has been completed, refer to page 42 and proceed with the setting.

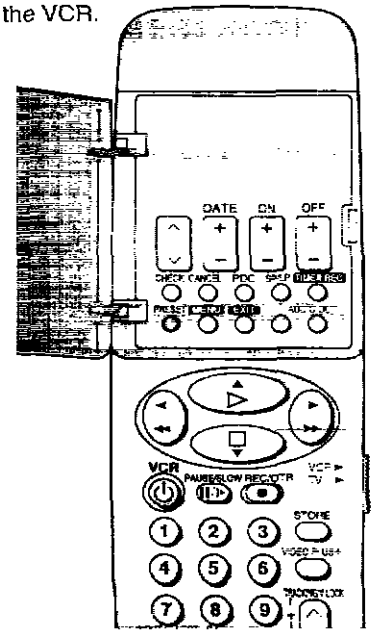
Note:
If VCR is not correctly set by Auto setup, see **Various Settings** on pages 36–39 and 42.

Viewing the TV station list

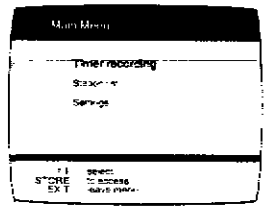
Use the following steps to confirm that the Auto setup is correctly set.

Preparations

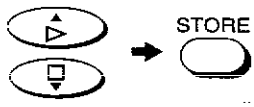
- Confirm that the TV is on and the VCR viewing channel is selected.
- Turn on the VCR.

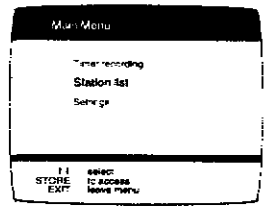


1 Press **MENU**.

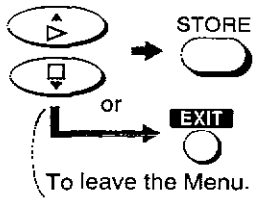


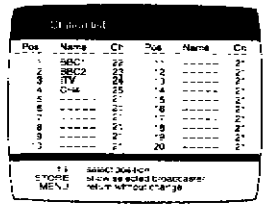
2 Select **Station list**.





3 Select the desired TV station, if you want to view the broadcast.





The station names have been entered and set correctly.

Auto setup is completed.

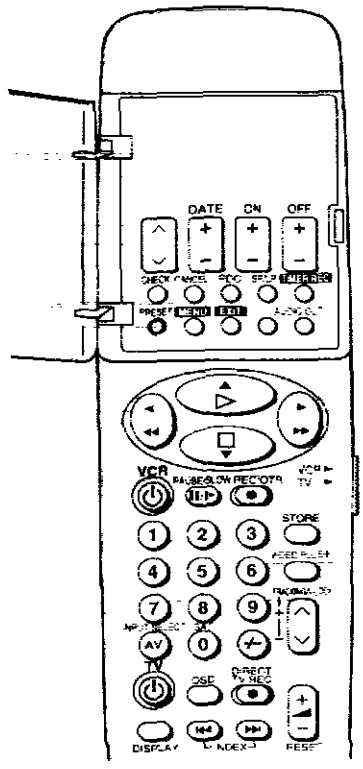
When the station names have not been correctly entered and set

Perform the settings on page 36.

Satellite Settings

Satellite Setting

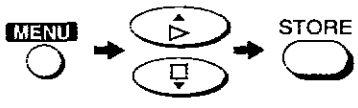
If you have connected a satellite receiver, you must perform the settings outlined below in accordance with the connection method used.

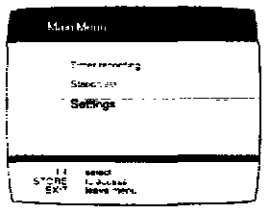


Set the **VCR/TV** switch to **VCR** to use the **numeric buttons**.

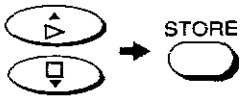
1 Press **MENU**, and then select **Settings**.

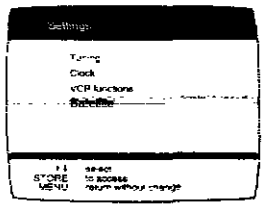
On Screen Display



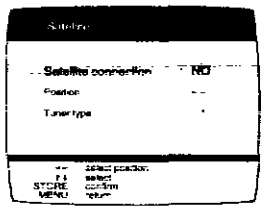


2 Select **Satellite**.

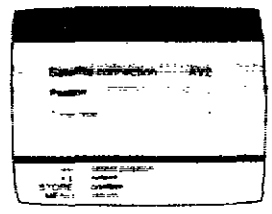




3 Select **Satellite connection**.



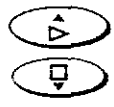
4 Select the position where the satellite receiver is connected.

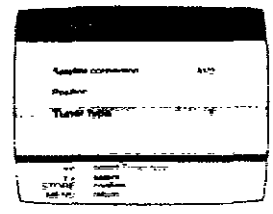


NO: When the satellite receiver is not connected to the VCR.
RF: When the satellite receiver is connected to RF IN socket of the VCR.
AV1: When the satellite receiver is connected to AV1 socket of the VCR.
AV2: When the satellite receiver is connected to AV2 socket of the VCR

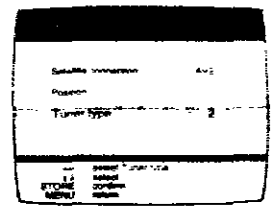
- The **Position** item is also automatically set when **RF** has been selected, and cannot be changed here. To change position of satellite channel, refer to **Manual Tuning Procedure** on page 36.

5 Select **Tuner type** by refering to the enclosed satellite receiver listing to find the tuner type number for your satellite receiver.





6 Enter the tuner type number by using ◀ ▶.



- It is also possible to select by pressing numeric button.

7 Press **STORE**, and then press **EXIT**.

Notes:

- The VCR may not be able to control some makes or models of Satellite Receiver, due to the choice of Remote Control coding being beyond our control.
- Check that the satellite receiver can be properly controlled. (Refer to page 20.)

Teaching the VCR your satellite channels

Before proceeding with the Video Plus+ programming, perform the settings given below.

Operations

1 Switch your satellite receiver on and go through each channel making a note of which channel is on which programme position. Your list look something like this.

Programme position	Channel
1	Sky 1
2	Sky News
3	Sky Movies
4	The Movie Channel
5	MTV
etc.	...

2 Get hold of a Satellite programme listing magazine or a newspaper which gives Video Plus+ codes for satellite channels for that day.

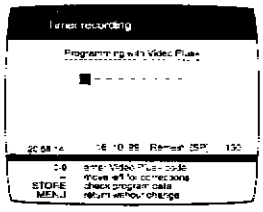
3 Chose any programme that will be broadcast on the channel you've assigned to programme position 1 on your satellite receiver (in our example, Sky 1) and make a note of its Video Plus+ code.

4 Press **VIDEO PLUS+** on your remote controller.

- The Video Plus menu appears on screen display.

VIDEO PLUS+

On Screen Display



5 Input the Video Plus+ code.

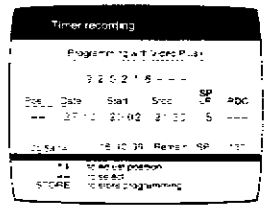
- Ensure that the **VCR/TV** switch is set to **VCR**.

SAT 0 → 9

6 Press **STORE**.

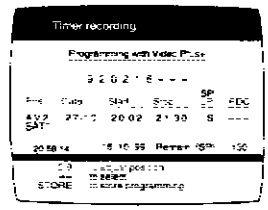
- "– –" appears on the programme position item.

STORE



7 First you have to select position where satellite receiver is connected, e.g. AV1, position 5 from station list.
Key in the number 1 using the remote controller. This is the programme position on the satellite receiver which corresponds with the correct channel (in our example, Sky 1) for the programme you've selected.

SAT 0 → SAT 0 → 1



8 Press **STORE**.

STORE

- When a cassette with an erasure prevention tab is inserted, VCR will go into timer recording standby mode.

9 Press **VIDEO PLUS+** again.

VIDEO PLUS+

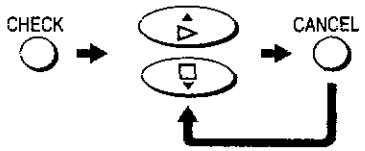
The video plus menu reappears. Repeat the same procedure, but this time selecting any programme that is going to be broadcast on the channel you've assigned to programme position 2 on your satellite receiver. (In our example, Sky News)

- When you get to step **7** above, key in the number **2**.

SAT 0 → SAT 0 → 2

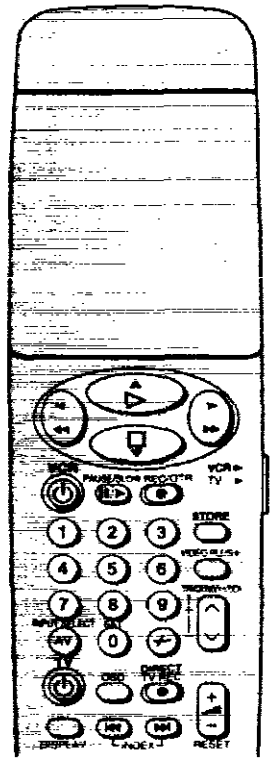
10 Repeat the procedure again, selecting one programme in turn from each of the channels on your satellite receiver (Sky Movies, The Movie Channel, MTV, Disney Channel, Bravo, UK Gold, etc.). Press **TIMER REC** button to cancel the timer recording standby mode.

11 Cancel all programming by pressing **CHECK**, ▲ ▼, and **CANCEL**.



The VCR has now learnt to recognize the individual satellite channels from Video Plus+ codes. In future, when you want to record, say a programme from SKY 1, all you need to do is key in the appropriate Video Plus+ code. The correct satellite channel, in this case, will automatically appear in the on screen display—you don't have to enter it manually.

How to Select the Satellite Channel



Set the **VCR/TV** switch to **VCR** to use the **numeric buttons**.

Press the numeric buttons on the remote controller.
- Ensure that the **VCR/TV** switch is set to **VCR**.

SAT 9: SAT 0 → SAT 0 → 9

SAT 19: SAT 0 → 1 → 9

- There will be a slight delay after pressing a button before channel change occurs. This is due to signal conversion.
- The range of satellite channels available for selection is 1 through 99.
- With some satellite receivers, it is not possible to select satellite channels up to 99.
- With some satellite receivers, it is not possible to select any more channels beyond the highest number of the channels which can be selected by the satellite receiver if that number is 99 or less.
- With some satellite receivers, it is necessary to leave a short interval after selecting one channel before attempting to select another channel.
- If the display on the satellite receiver fails to indicate the channels, refer to the operating instructions of the satellite receiver and follow the procedure for displaying the channels.

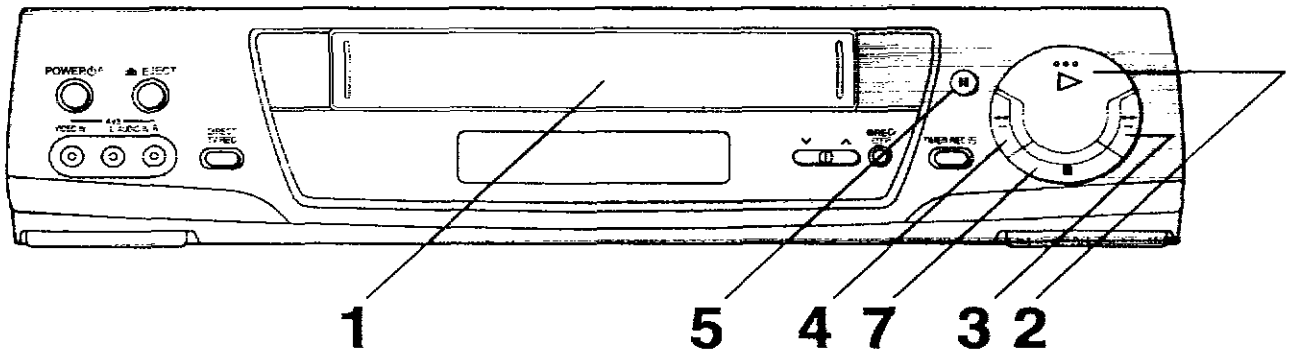
Basic Operations

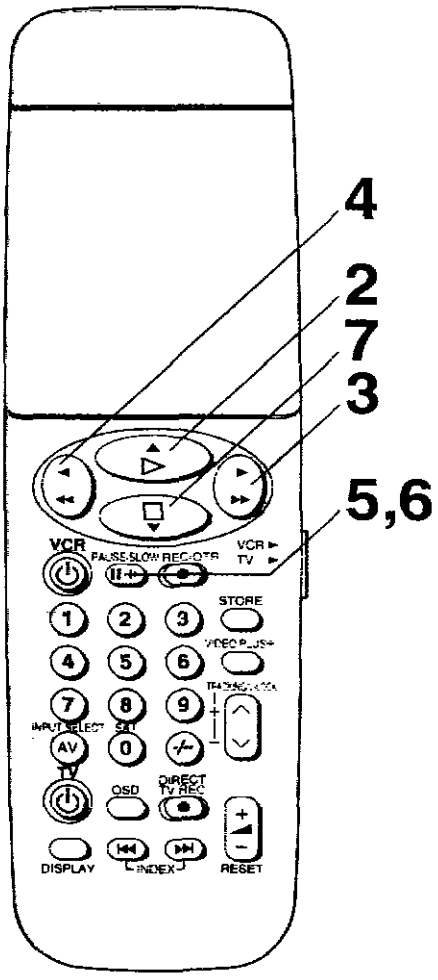
Playback

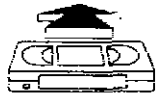
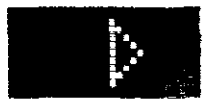
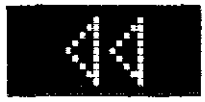
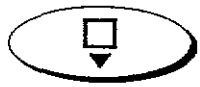
Manual Recording

One-Touch Recording (OTR)
Direct TV REC

Playback





Operations	Display Symbols	
1 		Insert a recorded cassette tape.
2		Start viewing the picture.
3		Search forward by briefly pressing ►► **(FAST FOWARD).** •To change back to normal playback, press ▷ **(PLAY).**
4		Search backward by briefly pressing ◄◄ **(REWIND).** •To change back to normal playback, press ▷ **(PLAY).**
5 PAUSE/SLOW		View a still picture. •Press **PAUSE/SLOW** or **II (PAUSE/STILL)** •To continue the normal playback, press ▷ **(PLAY)**, **PAUSE/SLOW** or **II (PAUSE/STILL).**
6 PAUSE/SLOW		View a slow motion picture. •Keep **PAUSE/SLOW** pressed for 2 seconds or more. •To continue the normal playback, press ▷ **(PLAY).**
7 		Stop viewing the picture.

Note:
If you keep ►► **(FAST FORWARD)** or ◄◄ **(REWIND)** pressed in step **3** or **4**, search playback is activated while the button is pressed, and operation returns to normal playback when the button is released.

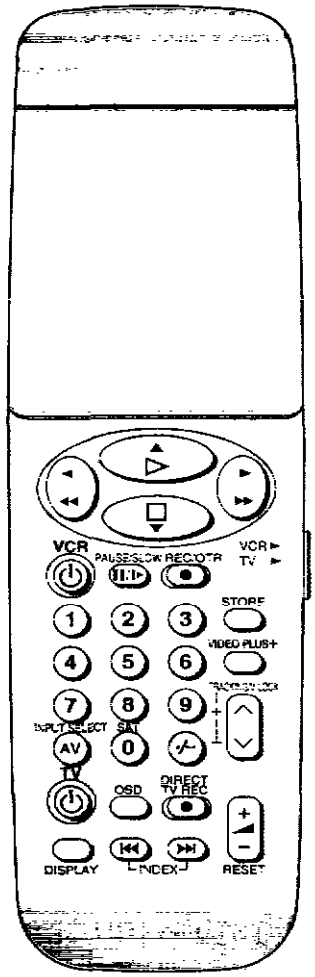
Other Playback Functions

To obtain High Speed Picture during Fast Forward or Rewind

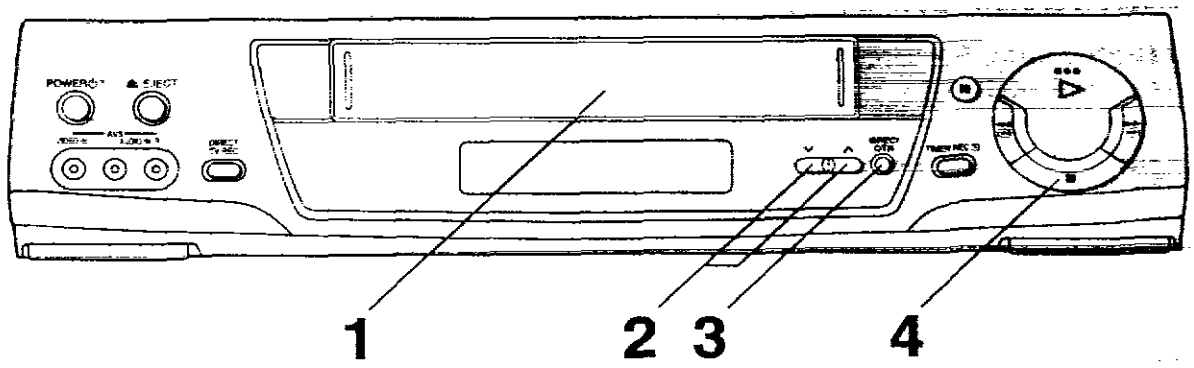
Keep ►► **(FAST FORWARD)** pressed during fast forward.
Keep ◄◄ **(REWIND)** pressed during rewind.

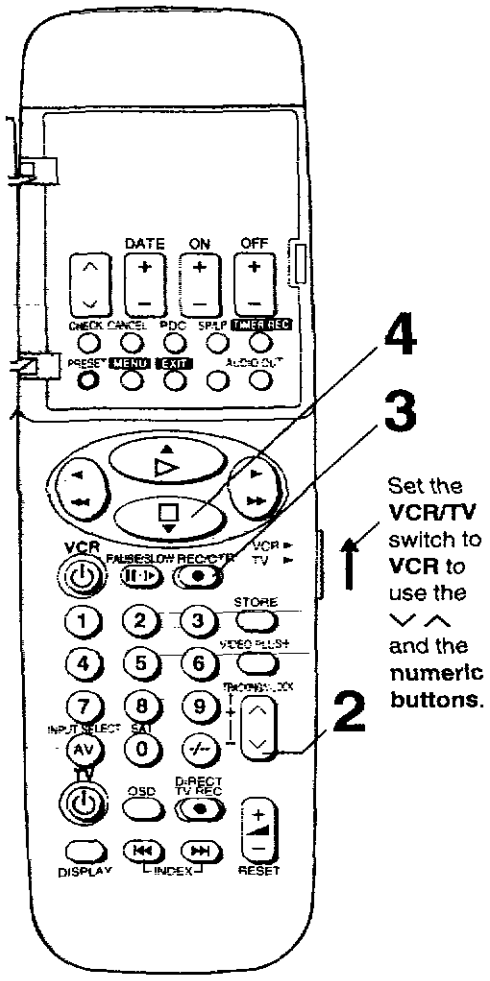
Notes:

- Audio reproduction of linear (conventionally recorded) tapes will be monaural when played back on the FM Hi-Fi video recorders.
- Cue, review or slow playback will be automatically released after 10 minutes, and still playback after 5 minutes.
- In "LP" mode only:
  1. During any playback mode other than normal playback, the picture may have some noise bars, the colour may be unstable, or a black and white picture may appear.
  2. When playing back a tape which was recorded on another VCR, it may be necessary to adjust the Tracking Control. In some cases the picture quality may still be inferior. This is due to limitation of format.
  3. Depending on the TV set used, the playback picture may roll up or down during special playback (Pause, Cue, Review or Slow playback mode). However, this is not an indication of a malfunction.

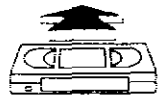


Manual Recording





Set the **VCR/TV** switch to **VCR** to use the ∨ ∧ and the **numeric buttons**.

Operations	Display Symbols	
1		Insert a video cassette with an intact erasure prevention tab. ●If it has already been inserted, press **POWER** ⏻/I **(VCR** ⏻**)** to turn the VCR on.
2		Select TV station. ●It is also possible to select by pressing **numeric buttons**. ●Ensure that the **VCR/TV** switch is set to **VCR**.
3	REC/OTR	Start recording.
4		Stop recording.

To select the Desired Tape Speed

Press **SP/LP** before recording.

SP/LP

SP gives the best picture quality.
LP gives the longest recording time.

To interrupt Recording

Press **PAUSE/SLOW** or **II (PAUSE/STILL)** during recording.
Press again to continue recording.

PAUSE/SLOW

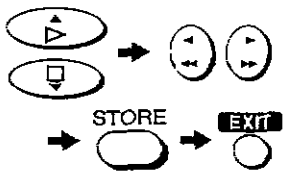
To record One TV Programme while Viewing Another Programme

1 Refer to the manual recording operations steps **1** to **3** (page 24).

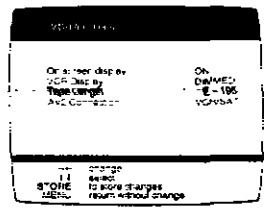
2 Select the TV programme on your TV set you wish to view at the present time.

To display the Approximate Remaining Tape Time

1 Select **Tape Length** from On Screen Display and select the corresponding cassette tape length. See page 41.



On Screen Display



◀ E-180: For E30, -60, -90, -120 and -180 tapes.
E-195: For E195 tape.
E-240: For E240 tape.
E-260 ▶: For E260 and -300 tapes.

2 Press **DISPLAY**.

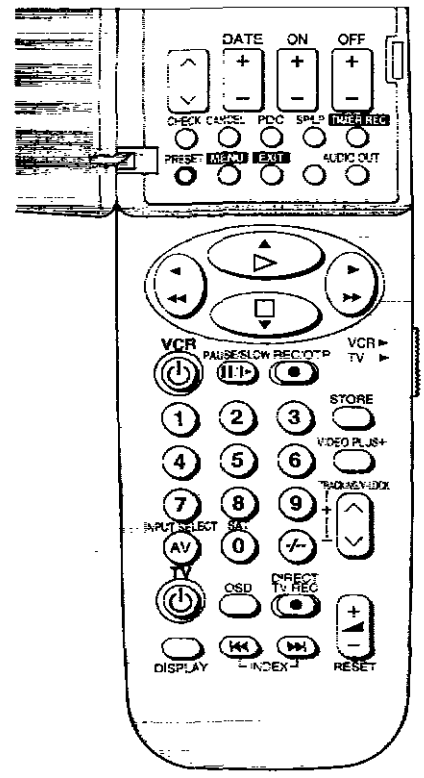
Display Symbol

→Clock→Counter→**Remaining Tape Time**

- The remaining tape time may not be displayed correctly depending on the tape used.

Notes:

- When a video cassette with a broken off tab is inserted, the "⊙⊙" indication will flash to indicate that recording is not possible.
- The recording pause mode will be automatically released after 5 minutes and be back to the stop mode.

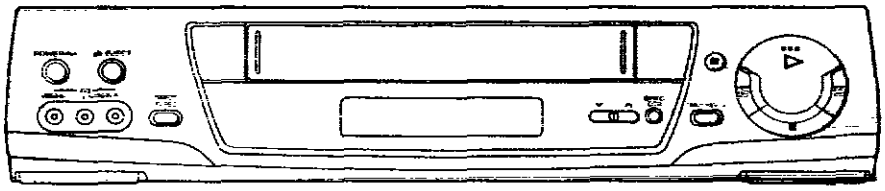


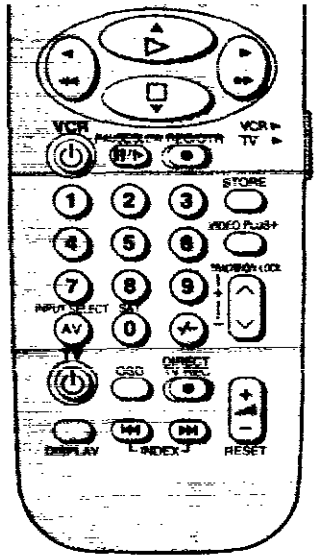
The NICAM Broadcast System

This VCR is equipped with the NICAM sound system. NICAM is a 2 Channel sound broadcast system to provide either a high quality stereo sound track or 2 independent MONO sound tracks, M1 and M2.
NICAM programmes are always accompanied by standard sound broadcasts and you can select the desired sound with **AUDIO OUT** during playback.

- The NICAM digital stereo sound can only be recorded on the Hi-Fi audio track.
- To record the regular sound (ordinary normal sound) on the FM audio tracks when a NICAM programme is received, select **NICAM OFF** during manual tuning procedure. See page 36.

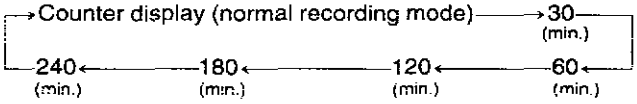
Important Note for the NICAM System
When this VCR is switched on, the tuner will automatically switch to a NICAM broadcast, if NICAM is being transmitted. During test transmissions, it is possible that the sound received doesn't correspond to the picture being viewed. In order to receive a synchronized sound and picture, select monaural sound with **AUDIO OUT** or **NICAM OFF** setting. This will only apply until NICAM transmissions are fully operational.
At this time the NICAM signal is transmitted on stereo channels only, since the M1 and M2 formats are not yet available.





One-Touch Recording (OTR)

Whenever you are in a hurry to start a timer recording with automatic stop in your absence, simply set the recording duration by pressing **REC/OTR** repeatedly.
The duration indicated on the VCR display changes by pressing **REC/OTR** as follows:



Preparation

Insert a video cassette with an intact erasure prevention tab.

Operations

1 Ready the video source which is to be recorded, and start recording.

2 Press **REC/OTR** repeatedly to select the desired recording duration.

REC/OTR

- The VCR will automatically switch off when OTR is completed. To turn the VCR on again, press **POWER ⏻/I (VCR ⏻)**.

Notes:

- The OTR function works during normal recording or Direct TV REC.
- When the tape reaches its end during OTR, the VCR will turn itself off.
- To stop OTR at any time, press □ **(STOP)** or **POWER ⏻/I (VCR ⏻)**.

Direct TV REC

When you want to record a TV programme while you are watching TV, simply press **DIRECT TV REC.**

However, this function works only when this VCR is connected to a TV equipped with "NEXTVIEWLINK", "Easy Link" or "Megalogic" facility using the fully-wired 21-pin scart cable.

Preparation

Insert a video cassette with an intact erasure prevention tab.

Operation

When you are watching TV and you want to record the programme quickly, press **DIRECT TV REC.** (Then the recording will start.)

DIRECT TV REC

- It is not necessary to adjust the programme position of your VCR to the TV station that you are watching now.

Notes:

- Even if the programme positions are not the same, the programme position of the VCR switches to the same position of the TV. Upon completion of the recording, the programme position of the VCR returns to the previous position.
- For this function to work correctly, ensure that the **"Preset Download"** has been carried out initially when the VCR was first connected to the TV set, otherwise the programme list on the VCR and TV may not be the same.
- In some cases, it may not be possible to change the TV channel during Direct TV REC.
- Check beforehand whether the tape may be used for recording.

Advanced Operations

Timer Recording

Using On Screen Display
Up to 8 timer programmes can be recorded up to one month in advance by setting the timer, including weekly and daily programmes.

Programming the Video Plus+ PlusCode

Editing

Assembly Editing
This enables you to record a new segment immediately after a previously recorded segment.

Other Functions

On Screen Display
NTSC Playback
VHS Index Search System
Other Automatic Functions

Timer Recording

Using On Screen Display

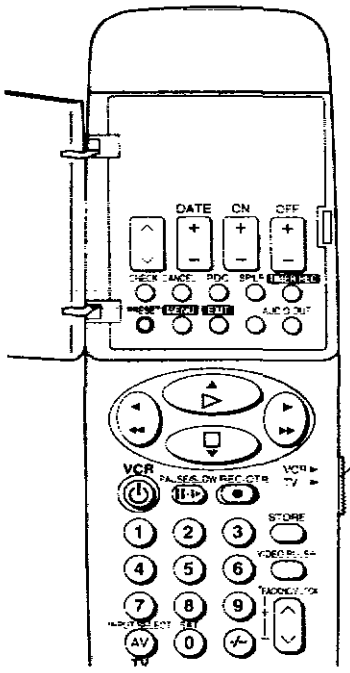
Up to 8 timer programmes can be recorded up to one month in advance by setting the timer, including weekly and daily programmes.

Preparations

- Insert a video cassette with an intact erasure prevention tab.
- Confirm that the TV is on and the VCR viewing channel is selected.

For Example:

Programme position (channel); 2
Date; 27th, October
Starting time; 20:00
Ending time; 21:30
(Present date: 16th, October)

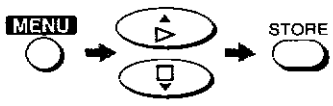


Set the **VCR/TV** switch to **VCR** to use the **numeric buttons**.

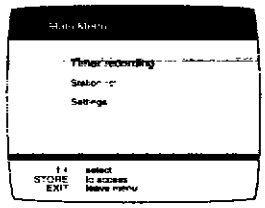
Follow the operation guide on screen display.

Operatons

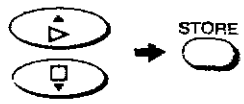
1 Press **MENU**, and then press **STORE** to access **Timer recording**.
- **Timer recording** is selected normally.

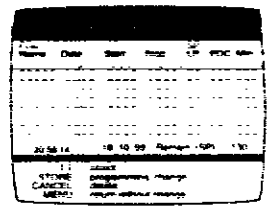


On Screen Display

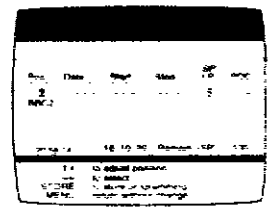


2 Press **STORE** again.
- The unoccupied position (blank line) is selected normally.



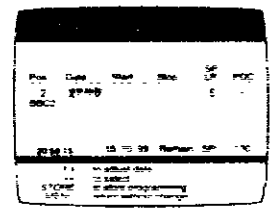


3 Set **Programme position** (channel) "2".
- An alternative method is to press ▲ ▼ ◄ ►.



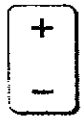
4 Set **Date** "27/10".

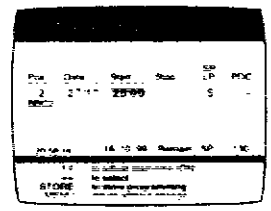
DATE



5 Set **Starting time** "20:00".
- When it is kept pressed, the indication changes in 30-minute steps.

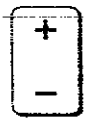
ON

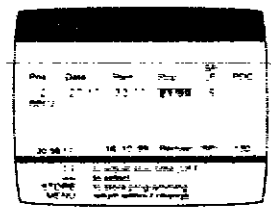




6 Set **Ending time** "21:30".

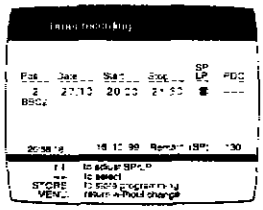
OFF





7 Select the desired **Tape speed (SP/LP).**

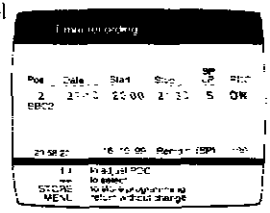
SP/LP



8 Select **PDC ON** or **OFF (---).**

- If PDC is set to **ON**, ensure that the starting time is the same as published time.
- See page 30 for PDC recording.
- During satellite channel timer programming, **PDC** cannot be set to **ON**.

PDC



9 Press **STORE.**

- **For the setting other programmes in succession, repeat steps 2–9.**

STORE

10 To activate timer recording, press **TIMER REC.**

TIMER REC

Weekly Timer Recording

In step **4**, select the desired day by pressing ▼ or **DATE** –.

Daily Timer Recording

For this timer function, several groups of days can be selected.

Ⓐ Daily recording from Monday to Friday.

Ⓑ Daily recording from Monday to Saturday.

Ⓒ Daily recording from Sunday to Saturday.

In step **4**, select the desired days by pressing ▼ or **DATE** –.

Timer Recording from External Signal Source

If Timer Recording is performed by a unit connected to the AV1 (TV), AV2 (DECODER/EXT) Sockets or AV3 (Audio/Video input sockets), select the A1, A2 or A3 indicator for the programme position.

A1: Through the AV1 (TV) socket.

A2: Through the AV2 (DECODER/EXT) socket.

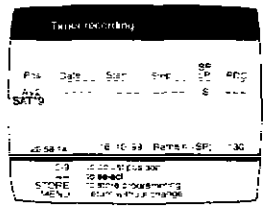
A3: Through the AV3 (AUDIO IN/VIDEO IN) sockets on front panel.

Satellite Channel Programmed Recording

When selecting the programme position (channel), use the numeric buttons to select a satellite channel.
Ensure that the **VCR/TV** switch is set to **VCR**.

SAT 9: SAT 0 → SAT 0 → 9

SAT 19: SAT 0 → 1 → 9



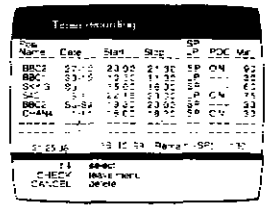
- PDC programming is not possible in conjunction with satellite programmed recording.
- With some satellite receivers, the power remains off for several seconds when timer recording commences. With some satellite receivers, the first several seconds will not be recorded when the timer recording function is used.
  In these cases, set the start time about 1 minute before the published time to avoid missing the start of the programme.
- With some satellite receivers, the power goes off if the recording is stopped while timer recording is still underway.

Checking a Timer Programme

- The VCR must be turned on, or the timer recording indicator "⏲" is lit.
- Confirm that the TV is on and the VCR viewing channel is selected.

Press **CHECK**. CHECK

- On Screen Display may be distorted in the PDC recording standby mode.

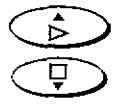


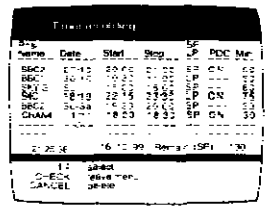
Cancelling a Timer Programme

- The VCR must be turned on or in timer recording standby mode.
- Confirm that the TV is on and the VCR viewing channel is selected.

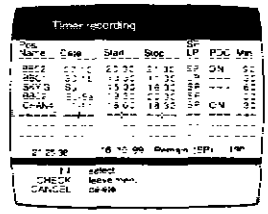
1 Press **CHECK**. CHECK

2 Select the desired timer programme.



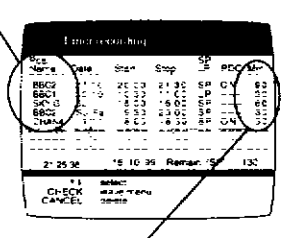


3 Press **CANCEL**. CANCEL



Notes:

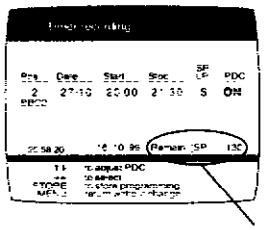
- Either the Position number or the Station name is displayed here.



- For Daily and Weekly timer recording, the recording time for only one recording session is displayed.

Checking the Remaining tape time for recording:

This displays the remaining time for the inserted tape.



Remaining Time Indicator

- This indicator is not displayed unless the remaining tape time has already been indicated on the VCR display. Refer to page 25.

PDC (Programme Delivery Control)

How to use PDC?

(1) The VCR detects if broadcast stations transmit PDC signal or not at the time of "Auto-setup" only, and stores this information in its memory.
If broadcast stations introduce or discontinue PDC transmission later on, "Auto-setup" must be carried out again to update the VCR's memory.

(2) PDC mode will be automatically set to "ON" when using "Video Plus+" codes for timer programming, if the stations have been memorised by the VCR as having PDC transmission.
PDC mode will be automatically set to "OFF" if the start time is altered during timer programming.

(3) PDC mode will be automatically set to "---" (no PDC) when using "Video Plus+" codes for timer programming, if the stations have not been memorised by the VCR as having PDC transmission.

(4) PDC mode will be automatically set to "OFF" when timer programming is done, for any station, by the "On-Screen" timer recording method, because the start time can be entered freely by the user.
To use PDC recording in this case, if the station transmits PDC signal, set PDC mode to "ON" and ensure that the start time is set to exactly the same as the published time, e.g. in newspapers, magazines, etc. If this is not done correctly, recording will not start.

Notes on PDC recording:

(1) PDC recording will start approximately some seconds before the broadcast programme commences and may stop some seconds before or after the end of the programme, depending on the control from the broadcaster.

(2) Normally programmed timer recording data is automatically cancelled after recording is completed. Under the following conditions the programmed timer recording data will be automatically cancelled at 4 a.m. of the next day.
  (a) If PDC signal cannot be detected during PDC timer recording, the VCR will perform normal timer recording (without PDC).
  (b) If a timer recording is incomplete due to insufficient tape or cancellation by the user.
  (c) If timer recording is still in progress at 4 a.m.
  (d) If the broadcaster transmits a PDC signal to suspend or interrupt the recording.
  If these cases, the VCR will remain in the timer standby condition after timer recordings have been completed.

(3) If PDC is set to "ON" manually for the station which does not have PDC transmission, the VCR will perform normal timer recording (without PDC).

(4) In case of multiple timer programmings, while the VCR is in timer standby mode the VCR will periodically check PDC status of the programmed stations with PDC in turn for any change in the start time of each programme. But while the VCR is recording a programme, it can only check the PDC status of that programme being recorded.

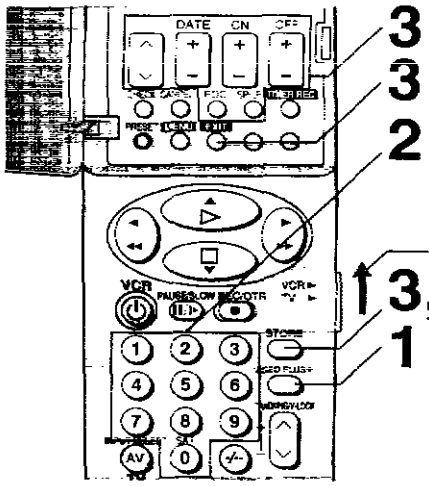
(5) If the actual broadcasting times of timer recordings overlap (regardless of whether they are PDC-controlled), the recording that starts first always has priority, and the recording of the later programme will start only after the first timer recording has finished.

(6) Some broadcasting stations send signals which change the programming information (channel, day on which the programme is scheduled to be aired, and its start and end times). In a case like this, the display at the **PDC** item on the On Screen Display programming screen changes to "ON+". When a change has been made in this way, what has been programmed can be cleared but it cannot be changed.

(7) When the name of a broadcasting station has been changed by manual tuning, the programmed recording may not be performed correctly even when **PDC** is **ON**.

Programming with Video Plus+ PlusCode

Programming is now easier than ever: simply enter the PlusCode provided in the programme schedule column carried by newspapers and magazines.
PlusCodes are numbers which are assigned to each programme listed in the TV programme schedule carried in newspapers and TV guides. When these codes are entered and **STORE** is pressed, the codes are converted into the actual programming.



Preparations

- Insert a video cassette with an intact erasure prevention tab.
- Confirm that the TV is on and the VCR viewing channel is selected.
- Ensure that the **VCR/TV** switch is set to **VCR**.

Operations

1 Press **VIDEO PLUS+**.

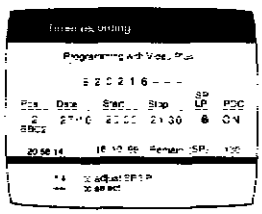
VIDEO PLUS+

2 Enter a Video PlusCode for the TV programme to be recorded.
Example: 920216
- If you have entered the wrong PlusCode, repeat step 1 then enter the correct PlusCode.

3 Press **STORE**.

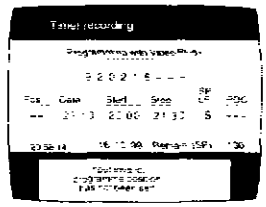
STORE

On Screen Display



- ⏲ indicator lights up on the VCR display panel to show that the programming data has been stored, but you can still amend the data if you wish.
- To extend the ending time or to make any corrections, use ▲ ▼ ► ◄ buttons, or under the flap ∨ ∧, **DATE**, **ON**, **OFF**, **PDC** or **SP/LP** buttons.
- To cancel the timer programme, press ▲ or ▼ button, then press **EXIT** button within about 1 minute, otherwise the VCR will go into timer recording standby mode.
- If you don't want to store the current timer programme shown on the screen, press ▲ or ▼ button, then press **Video Plus+** button within about 1 minute.
- PDC will be set to **ON** automatically if the station has been memorised as having PDC transmission at the time of Auto setup.
  PDC can be set to **OFF** manually, if desired, by moving the highlight to PDC then using the **PDC** button.

When programming for the first time using a Video Plus+ code, "—" will appear for the programme position because the station has been manually tuned:
In this case, select the programme position of your VCR which receives the TV station you entered the Video Plus+ PlusCode for at step **2** using button ▲ ▼ or ∨ ∧.



- After several seconds have elapsed, the message display at the bottom of the OSD is replaced by the operation guide display.
- Once programming is performed after the programme position has been selected here, the guide channel will be automatically stored so that the correct position will appear when the Video Plus+ PlusCode for this station is next entered.

4 Press **STORE** once more to confirm.
- The VCR will go into timer recording standby mode, and the on screen display will disappear.

STORE

Note:
The VCR will automatically change to the timer recording standby mode after about 1 minute. if **STORE** is not pressed.

5 When programming two or more programmes, repeat steps **1–4**.

Notes:
- To release from the standby mode, press **TIMER REC** button.
- When the PlusCode is used for programming, the recording time may be slightly longer than the actual programme time.
- The procedure for checking and cancelling a timer programme is the same as on page 29.

Editing

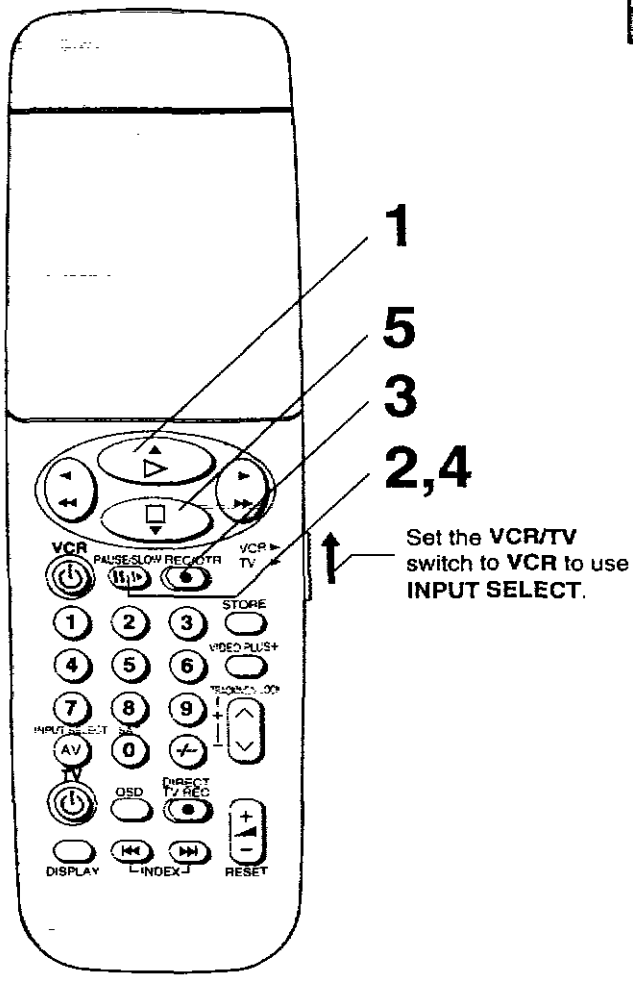
Assembly Editing

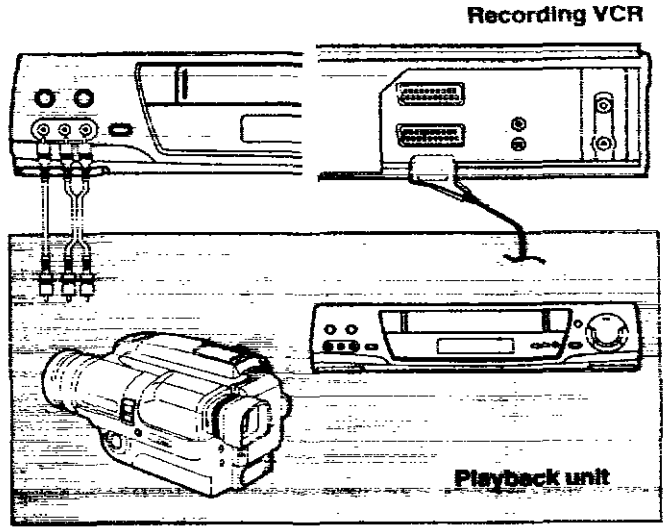
This function can be used to make up an edited tape from other recordings or video sources.

A new scene can be added to the end of a previous one.

Preparations

- Connect a movie camera or another VCR to this VCR as shown.
- Insert a recorded cassette tape with an intact erasure prevention tab.
- Select the video source required by pressing **INPUT SELECT** to set A1, A2 or A3.
  Ensure that the **VCR/TV** switch is set to **VCR**.
  A1: Through AV1 (TV) socket.
  A2: Through AV2 (DECODER/EXT) socket.
  A3: Through the AV3 (AUDIO IN/VIDEO IN) sockets on front panel.





Operations

1 Search for the end of the previous recording.

2 Press **PAUSE/SLOW** or **II (PAUSE/STILL)**.

3 Press **REC/OTR** to switch the VCR from the pause mode to the recording standby mode.

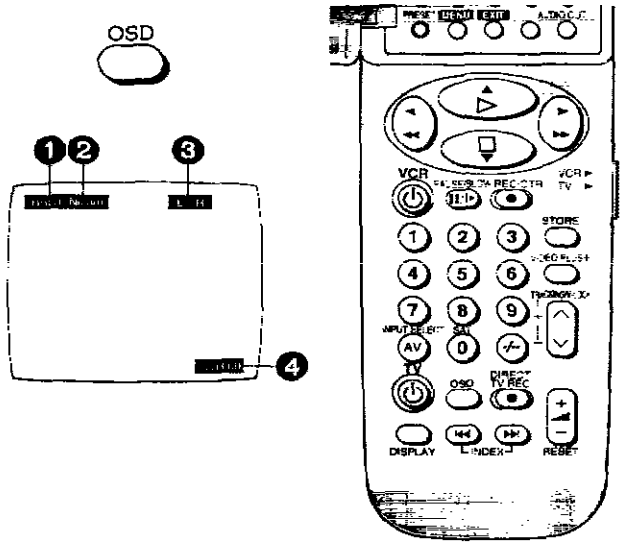
4 Start the new recording by pressing **PAUSE/SLOW** or **II (PAUSE/STILL)** again.

5 Press □ **(STOP)** to stop recording.

Other Functions

On Screen Display

Press **OSD** to make the On Screen Display appear on the TV screen.



1 TV station

2 Nicam or Mono Indicator
When receiving a TV programme, the type of sound system in which it is broadcast is automatically indicated.
- If **NICAM OFF** is selected during manual tuning procedure (See page 36.), Mono indicator is always displayed.

3 Audio Output Mode Indicators
The Left (L) and Right (R) Indicators show which sound mode is selected with **AUDIO OUT**.
Stereo: Both the L and R Indicators appear.
Left: The L Indicator appears.
Right: The R Indicator appears.
Normal: Both the L and R Indicators don't appear.

4 OTR indication

Note:
When the item "**On screen display**" is set to OFF (See page 40.), the On Screen Display (except for the error message) will not appear.

NTSC Playback

Tapes recorded in the NTSC system can be played back with this VCR via a PAL system TV set.
- The playback picture may roll up or down. If the TV set is equipped with a V-HOLD control, it may be possible to stop the picture movement by adjusting this control.
- Depending on the TV set used, the picture may be in black and white. However, this is not an indication of a malfunction.

VHS Index Search System

It is very easy to find the beginning of each recording, because a special index signal is recorded at the start of each recorded segment on the tape.

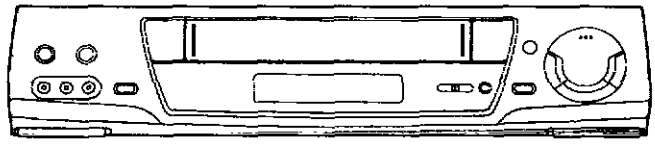
Recording Index Signals
Index signals are recorded in following cases.
- When a recording is started by pressing **REC/OTR**.
- When timer recording is activated.

For example:
Searching for the 2nd recorded segment in the forward direction.
Press **INDEX** ⏭ twice during normal playback or stop mode.
(This operation is performed while the VCR is in the stop mode or normal playback mode)

Display Symbol

- After finding the specific recorded segment, playback starts automatically.
- For the reverse direction, press **INDEX** ⏮.
- Up to 20 programmes can be searched for in both directions.
- When the opposite **INDEX** button is pressed, the number shall be decreased till 1.
- The figure on the display is decremented by 1 each time an index signal is located. Bear in mind that the display will be decremented in this way even while either **INDEX** button is being pressed.
- The INDEX search function can only work correctly, if the index signals are spaced at least 3 minutes apart in the SP mode and 5 minutes apart in the LP mode.

Other Automatic Functions



Automatic Playback
When a cassette without an erasure prevention tab is inserted, the VCR starts playback automatically.

VCR-off Playback
When the VCR is off, an inserted cassette can be played back by pressing ▷ **(PLAY)**.

Automatic Rewinding
When the tape reaches its end during recording (except for timer recording) or playback, it will automatically be rewound to the beginning.
- During OTR, this function will not work.

Automatic Switching Off and Ejection
When the VCR is switched off, and inserted cassette can be ejected simply by pressing **EJECT**. The VCR will eject the cassette and automatically turn itself off again.

Various Settings

Storing TV Broadcasts into your VCR

The VCR is fitted with its own tuner (just like a normal TV set) and can be pre-set to receive up to 99 TV broadcast stations.

Settings Using On Screen Display

Setting the Clock of your VCR

The built-in clock is used to activate the timer for automatic recording and must be set to the correct time.

Setting the Remote Controller for Operation of your TV

You can operate some makes of TVs using the supplied Remote Controller after this setting up.

Storing TV Broadcasts into your VCR

Introduction

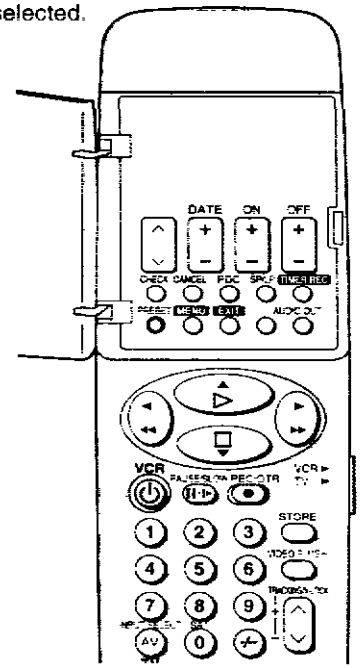
The VCR is fitted with its own tuner (just like a normal TV set) and can be pre-set to receive up to 99 TV broadcast stations.

When your video cassette recorder is plugged in for the first time, the Auto setup feature will tune in your channels automatically.

However, under certain circumstances in some transmission areas certain channels may not be assigned a channel name or their normal channel position. If this is the case they will need to be tuned manually. If Auto setup is not successful, please follow the steps below.

Preparation

Confirm that the TV is on and the VCR viewing channel is selected.



Set the **VCR/TV** switch to **VCR** to use the **numeric buttons**.

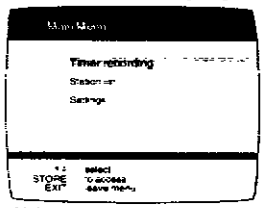
Manual Tuning Procedure

Follow the operation guide on screen display.

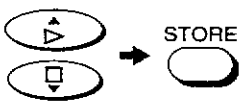
Operations

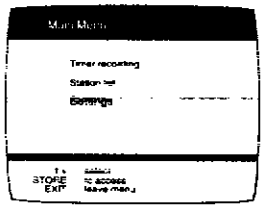
1 Press **MENU**.

On Screen Display

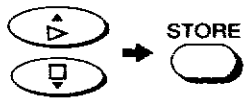


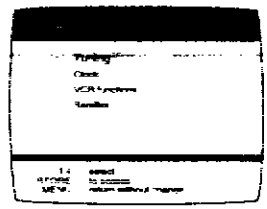
2 Select **Settings**.



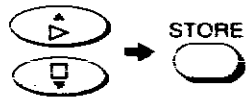


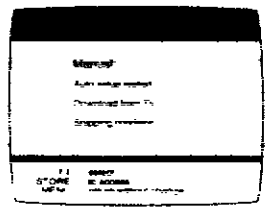
3 Select **Tuning**.



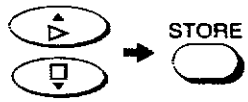


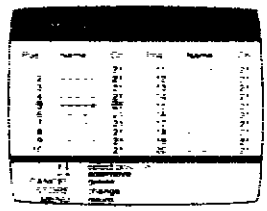
4 Select **Manual**.





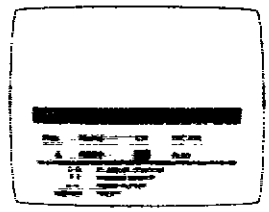
5 Select desired **Programme position**.



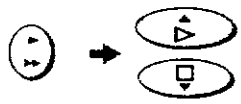


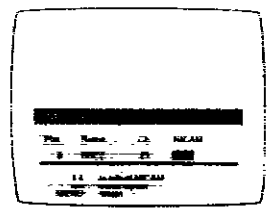
6 Select the Signal Transmission Channel **(Ch)** if known.

Use the numeric buttons.
Example: 23
Ensure that the **VCR/TV** switch is set to **VCR**.
- Use ▲ ▼ to search for the station if channel number is not known.



7 Select **NICAM Auto**.





- Select **NICAM OFF** to record the normal sound during a NICAM broadcast or if the stereo sound is distorted due to inferior reception conditions.

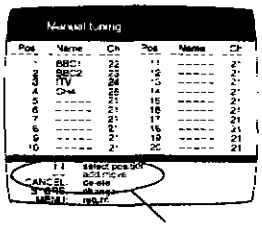
8 Press **MENU**, and then press **EXIT**.
- Repeat steps **5** to **8** if manual tuning for other station is required, before pressing **EXIT**.

Note:
When **Preset Download (Download from TV)** has been executed, do not perform Manual Tuning.
This is because when the tuning contents for the TV are changed, this information is downloaded to the VCR again, thereby erasing the independent contents input by Manual Tuning.

When changing (moving) the programme position, adding "Blank" positions and deleting stations:

These operations can be performed easily by following the indications of On Screen Display.

On Screen Display



Indications

Press ▲ or ▼ to select the desired programme position (station), and then follow the steps indicated below.

←: Press ◀ to add "Blank" position.

→: Press ▶ to change (move) the programme position.

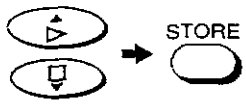
CANCEL: Press **CANCEL** to delete the stations.

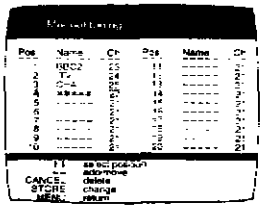
- These indications do not appear after performing **Preset Download (Download from TV)**.

Entering the Station Name

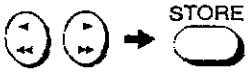
Follow the steps **1** to **4** on page 36.

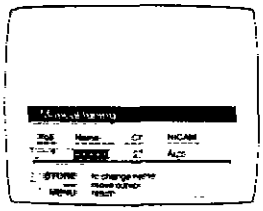
5 Select the station(s) named - - - - - for which you wish to setup name.
Establish which channel you are viewing, by checking your TV Guide/Newspaper.



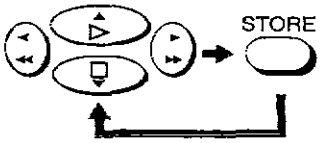


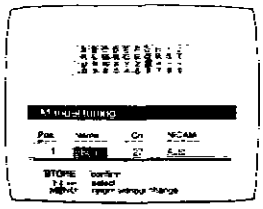
6 Highlight the TV station name.



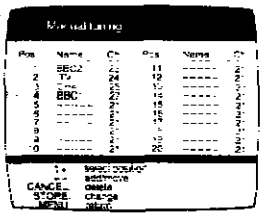


7 Enter characters into **all** five - - - - - positions, from the table using the arrows and press **STORE** after **each** character. Use blank space if required, to enter a blank select the area between **Z** and -.





8 Press **MENU** once. If you wish to change or setup any other TV station names, repeat steps **5→8**.

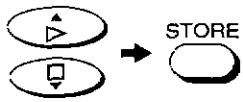


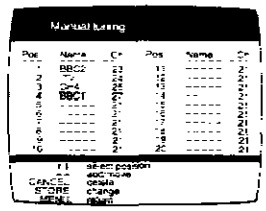
9 Press **EXIT**.

Changing the Programme Position

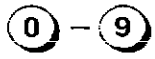
Follow the steps **1** to **4** on page 36, then follow the example below.

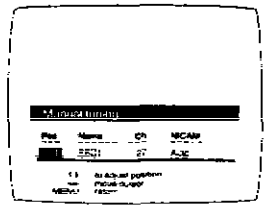
5 Select the station(s) named "BBC1".





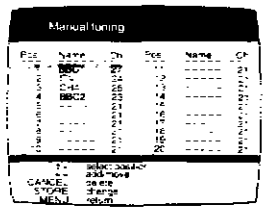
6 Select the number location you want to set the channel.





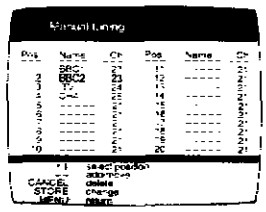
- Use the numeric buttons.
  Example: 1
  Ensure that the **VCR/TV** switch is set to **VCR**.

7 Press **MENU** once.



8 To amend other programme positions repeat steps **5→7**.

9 When correctly tuned your station list will look like this. (Channel information will vary.)



- This is needed for using Video Plus+ PlusCodes correctly.

10 Press **EXIT**.

Notes:

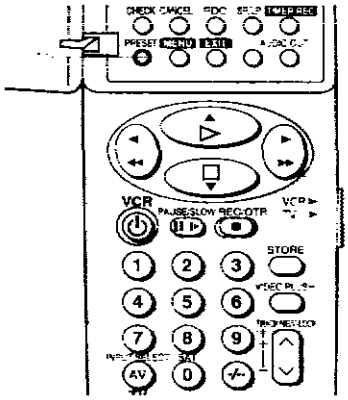
- When channels have been set with manual tuning, the channel position will need to be entered in the highlighted box the first time Video Plus+ is used.
- Any channel which receives satellite broadcasts is set using the special name of **"SAT "**. The **"SAT "** name should not therefore be changed.
  If a channel name is to be changed in order to use that channel as an ordinary channel instead of receiving the broadcasts of the satellite channel, first select a setting other than **"RF"** for **"Satellite connection"** in **"Satellite"** on the OSD menu **"Settings"** (see page 18), and then proceed with Manual Tuning.

Satellite Tuning Manually

This section describes method for tuning VCR to a satellite receiver which has been added to your system after Auto setup has been done previously. If AV connection (connection by means of a 21-pin scart cable) is used, then this procedure is not necessary.

Preparations

- Confirm that the TV is on and the VCR viewing channel is selected.
- Turn on the VCR.
- Turn on the satellite receiver and select "SKY ONE" or "SKY NEWS" station.



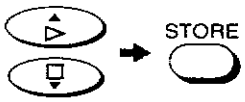
Set the **VCR/TV** switch to **VCR** to use the **numeric buttons**.

Follow the operation guide on screen display.

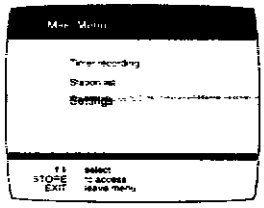
Operations

1 Press **MENU**.

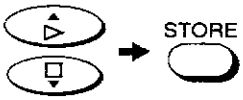
2 Select **Settings**.

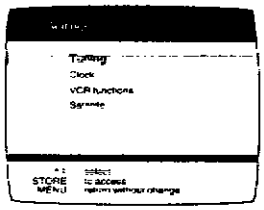


On Screen Display

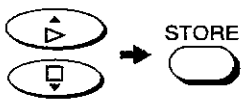


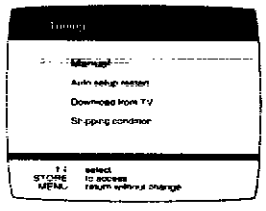
3 Select **Tuning**.



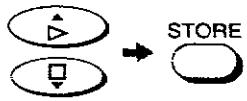


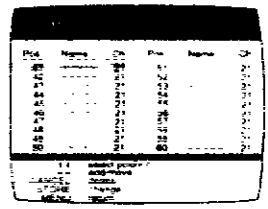
4 Select **Manual**.





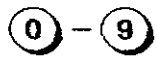
5 Select unoccupied **Programme position**.





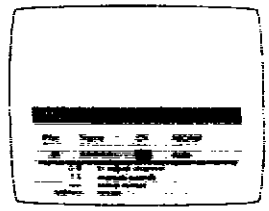
6 Select a signal transmission channel **(Ch)** on which satellite broadcasts can be viewed.

- Ensure that the **VCR/TV** switch is set to **VCR**.

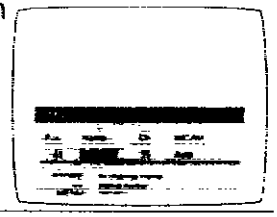


Use the numeric buttons.
Example: 35

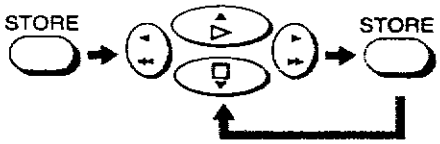
- Or ▲ ▼ to search for satellite signal.

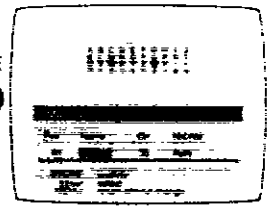


7 Select the TV station name **(Name)** item.



8 Enter **"SAT __"**.





- "__" indicates two blank spaces. Enter the space to the right of the **"Z"** on the keyboard.
- **"SAT"** is a special term; use it only when a satellite receiver is connected.
- If **"SAT"** is already displayed, this step is unnecessary.

9 Press **MENU**, and then press **EXIT**.

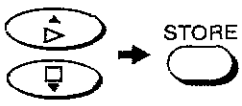
Note:
When **Preset Download (Download from TV)** has been performed, change the name of the channel for viewing the satellite broadcast on the TV to **"SAT"** instead of executing this page (refer to the operating instructions of the TV). If this step is taken, preset Download is performed again automatically, and the name of the VCR's SAT channel is also changed.

Auto Setup Restart

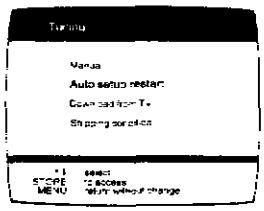
If the VCR is moved to a different TV transmission area, you may have to retune your VCR. Follow the procedure below.

Follow the steps **1** to **3** on page 36.

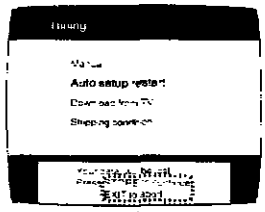
4 Select **Auto setup restart**.

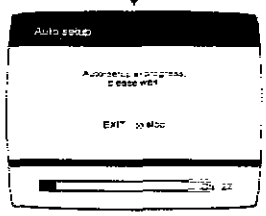


On Screen Display



5 Press **STORE**.





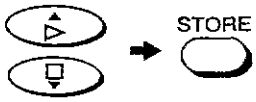
- The auto setup screen may fail to appear temporarily.

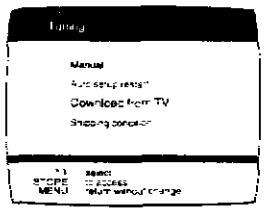
Download from TV

To perform the downloading again, follow the procedure below in the stop mode.

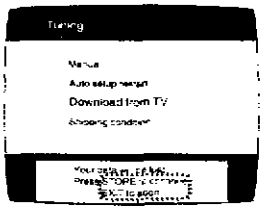
Follow steps **1** to **3** on page 36.

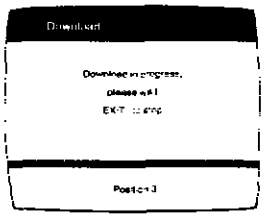
4 Select **Download from TV**.





5 Press **STORE**.



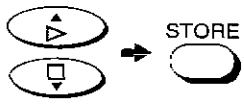


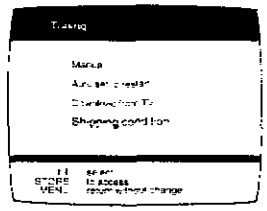
Shipping Condition

If you want to return the VCR to the factory-preset condition, follow the procedure bellow.

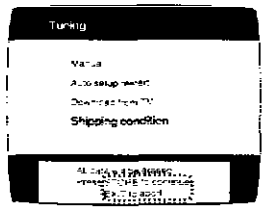
Follow the steps **1** to **3** on page 36.

4 Select **Shipping condition**.

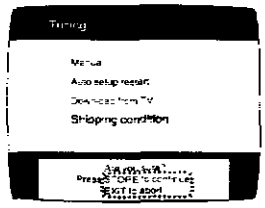




5 Press **STORE**.



6 Press **STORE** again.



- Since the RF output channel is initialized to 21 when Shipping Condition is executed, the TV picture may fail to appear.

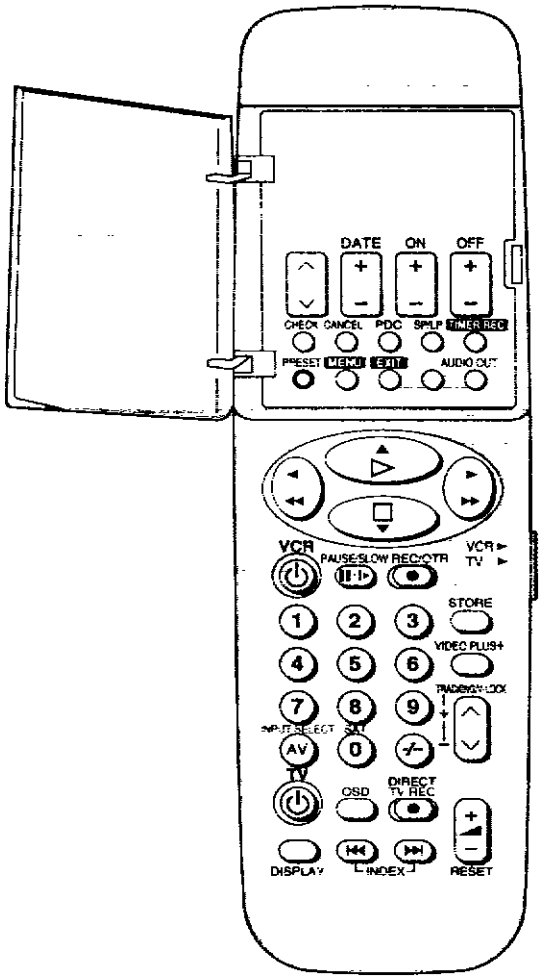
Note:

To re-tune the VCR, disconnect and then reconnect the mains lead. The RF output channel is now searched automatically. If the VCR is off, turn on the VCR and then repeat the procedures on pages 15–17.

Settings Using On Screen Display

Preparations

- Confirm that the TV is on and the VCR viewing channel is selected.
- Turn on the VCR.

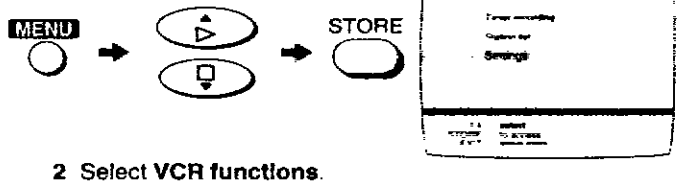


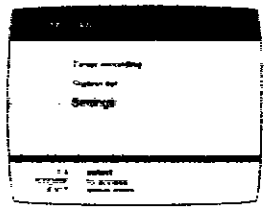
VCR functions

On Screen Display

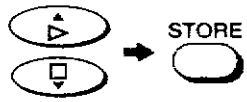
1 Press **MENU**, and then select **Settings**.

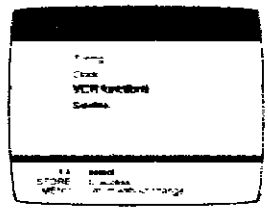
On Screen Display



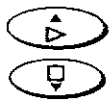


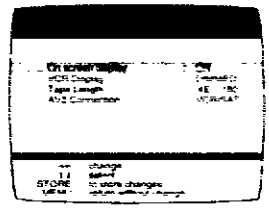
2 Select **VCR functions**.



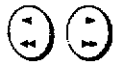


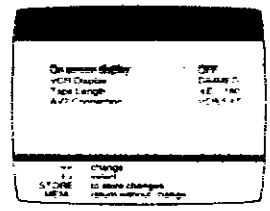
3 Select **On screen display**.





4 Select **ON** or **OFF**.





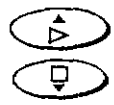
ON: The On Screen Display will appear on the TV screen by pressing **OSD**.
OFF: The On Screen Display will not appear even if **OSD** is pressed.

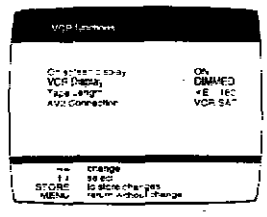
5 Press **STORE**, and then press **EXIT** to make On Screen Display disappear.

VCR Display

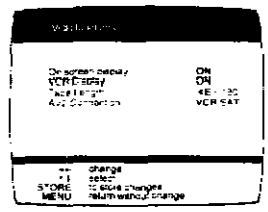
Follow steps 1 and 2 on page 40.

3 Select **VCR Display**.





4 Select **ON**, **OFF** or **DIMMED**.

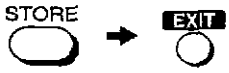


ON: When VCR is tuned off, the characters are lit in the VCR display.

OFF: When VCR is turned off, the characters are not lit in the VCR display.

DIMMED: When VCR is turned off, the characters are dimmed in the VCR display.

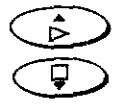
5 Press **STORE**, and then press **EXIT** to make On Screen Display disappear.

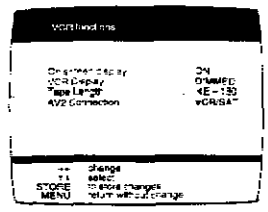


To select the Corresponding Cassette Tape Length for Displaying the Approximate Remaining Tape Time

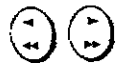
Follow steps 1 and 2 on page 40.

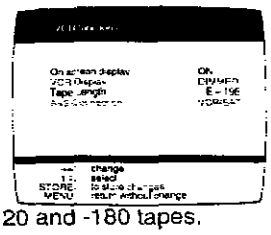
3 Select **Tape Length**.





4 Select the corresponding cassette tape length.





◄ E-180: For E30, -60, -90, -120 and -180 tapes.

E-195: For E195 tape.

E-240: For E240 tape.

E-260 ►: For E260 and -300 tapes.

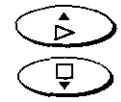
- The times displayed may differ depending on the tape used.

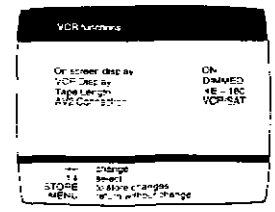
5 Press **STORE**, and then press **EXIT** to make On Screen Display disappear.

AV2 Connection

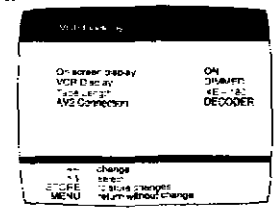
Follow steps 1 and 2 on page 40.

3 Select **AV2 Connection**.





4 Select **VCR/SAT** or **DECODER**.

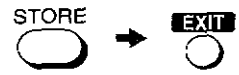


VCR/SAT: When another VCR or the satellite receiver is connected to the AV2 socket.

DECODER: When the decoder is connected to the AV2 socket.

If **Satellite Connection** is set to **AV2** (See page 18), **AV2 Connection** is set to **VCR/SAT** automatically.

5 Press **STORE**, and then press **EXIT** to make On Screen Display disappear.



Setting the Clock of your VCR

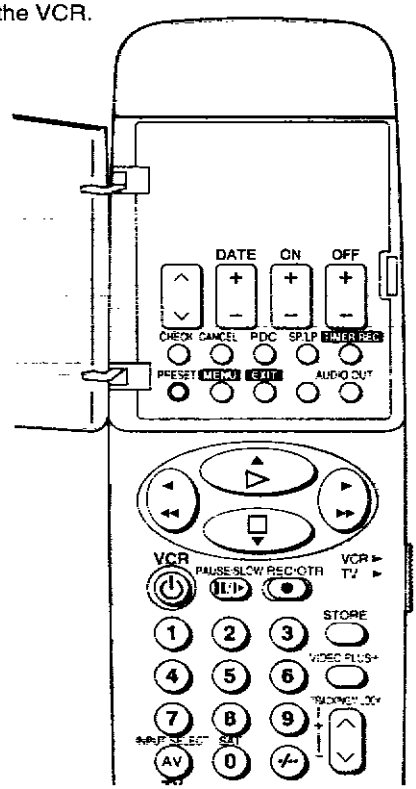
The built-in clock is used to activate the timer for automatic recording and must be set to the correct time.

The built-in digital clock employs the 24-hour system.

If VCR is not correctly set by Auto setup, follow the procedure below.

Preparations

- Confirm that the TV is on and the VCR viewing channel is selected.
- Turn on the VCR.



Manual Clock Setting

Follow the operation guide on screen display.

Operations

1 Press **MENU**, and then select **Settings**.

2 Select **Clock**.

3 Select **Manual setting**.

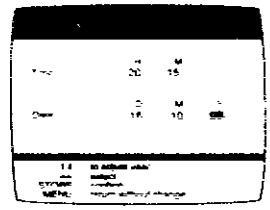
4 Set **Time (H/M)**.
- When it is kept pressed, the indication changes in 30-minute steps.

5 Set **Date (D)**.

6 Set **Month (M)**.

7 Set **Year (Y)**.

On Screen Display



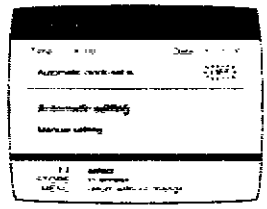
8 Press **STORE**.
- The clock will start.

9 Press **EXIT**.

Automatic Clock Setting

Follow steps **1** to **2** of the above procedure.

3 Select **Automatic setting**.

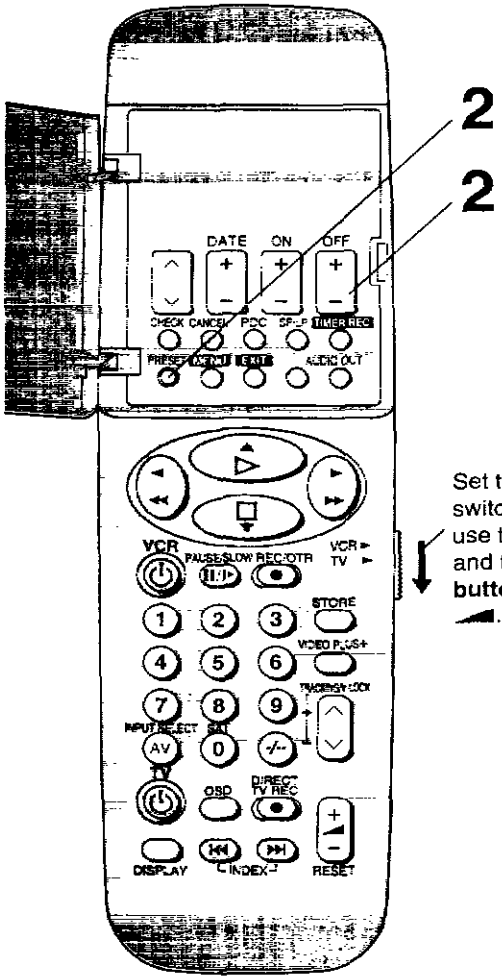


4 Press **STORE**.
- The clock is set automatically.

Notes:
- The clock operates for at least 60 minutes by its backup system in the event of power failure.
- When the item **"Automatic clock-set is"** is ON, on the on screen display, Automatic time correcting function is activated every day.
  The Automatic time correcting function will only work when the VCR is in standby. This function will not work during timer recording standby mode.

Setting the Remote Controller for Operation of your TV

You can operate the TVs of the manufacturers listed on the next page with the remote controller after setting it.



Set the **VCR/TV** switch to **TV** to use the ∨ ∧ and the **numeric buttons**, **AV** and ◢.

Preparation

Install the batteries in the remote controller.

Operations

1 Turn on the TV.

2 Press **OFF** "+" or "−" slowly and accurately while holding down **PRESET**. Each time either "+" or "−" is pressed, the number changes in the following sequence.

- When "+" is pressed: 1→2→...30→1→...
- When "−" is pressed: 30→29→...1→30→...
- The TV will switch to standby when you reach the number matching the manufacturer number of your TV. The manufacturer number is not displayed.
- Set **VCR/TV** switch to **TV**, otherwise you cannot perform TV operations using the ∨ ∧, the **numeric buttons**, **AV** and ◢ of this remote controller.

Note:

Some TV models cannot be operated using this remote controller.

Number	Manufacturer
1–4	Panasonic
5	GRUNDIG, Blaupunkt, SIEMENS
6	PHILIPS, LOEWE, SAMSUNG, RADIOLA, DUAL, PYE, BUSH, GOODMANS, ELEMIS, CURTIS, SBR
7	SONY
8	METZ
9	FERGUSON, THOMSON, TELEFUNKEN, GOODMANS, SABA
10	FERGUSON, THOMSON, TELEFUNKEN, GOODMANS
11	FERGUSON, THOMSON, TELEFUNKEN, GOODMANS, SABA
12	FERGUSON, TELEFUNKEN, GOODMANS, SABA
13	TELEFUNKEN
14	FERGUSON, THOMSON, TELEFUNKEN, GOODMANS, SABA
15	FERGUSON, THOMSON, TELEFUNKEN, GOODMANS, SABA, NORDMENDE, BRANDT
16	TELEFUNKEN
17, 18	HITACHI
19	SIEMENS
20	SAMSUNG
21	ITT, NOKIA, SELECO
22	NOKIA, SALORA
23	MIVAR
24	TOSHIBA
25	SANYO
26	SHARP
27	JVC
28	MITSUBISHI
29, 30	HITACHI

When a TV manufacturer has multiple numbers
For example, When the number is 1, 2, 3 or 4 (Panasonic):
When the TV switches to standby in step **2** on previous page. turn it back on and adjust the TV volume using this remote controller. The volume can be adjusted if the number matches the manufacturer of TV.
If it is not possible to adjust the TV volume, repeat step **2** to match the manufacturer of TV again until the volume can be adjusted.

Note:
FERGUSON, THOMSON, TELEFUNKEN, GOODMANS, SIEMENS, SAMSUNG, NOKIA, SABA and HITACHI have multiple numbers. Although some models may operate with any of these numbers, other models may operate with only one number. Check each number in turn, and set the optimal number.

Helpful Hints

Before Requesting Service

Before requesting service, check the following points once again.

Precautions

Please read these cautions before you operate this VCR.

Specifications

Before Requesting Service

Before requesting service, check the following points once again.

Message of On Screen Display		
MESSAGE	**CAUSE**	**REMEDY**
This action is not possible before time and date are set	**VIDEO PLUS+** or **TIMER REC** is pressed when date and time is not set.	Set date and time.
Please insert video tape!	**REC/OTR, DIRECT TV REC, ▷ (PLAY), ▶▶ (FAST FORWARD)** or **◀◀ (REWIND)** is pressed when no cassette in the VCR.	Insert a video cassette.
Please use tape with recording tab intact!	**REC/OTR** or **DIRECT TV REC** is pressed without tab of Cassette.	Use a cassette with tab.
No timer recording programmes to be done!	**TIMER REC** was pressed even though nothing has been programmed.	Programme the timer recording.
Please put VCR into stop mode first!	**VIDEO PLUS+** was pressed during a tape operation.	Set the VCR to the stop mode.

●Other messages besides these may appear. Follow the instructions in the message.

Self Test Indication		
This VCR has a self-diagnosis and display function. If the VCR detects trouble during installation or during use, the following indications automatically appear in the VCR display. Indications are displayed in the form of a single English letter plus two numbers such as [H01].		
INDICATION	**CAUSE**	**REMEDY**
H □ □	Some trouble has occurred. (Numbers following H and F differ according to the status of the VCR.)	Consult your dealer for further advice.
F □ □		

VCR will not operate correctly

SYMPTOM	CAUSE	REMEDY	CHECKED
VCR display is not illuminated.	Mains lead is not connected.	Reconnect mains lead to VCR.	
	VCR Display setting is OFF.	Set **VCR Display** to ON or DIMMED. See page 41.	
VCR display is illuminated but VCR will not operate.	VCR is in timer mode.	Press **TIMER REC** to operate VCR manually.	
	Safety devices are operating.	Disconnect mains lead and wait for 1 minute. Reconnect mains supply and check functions.	
VCR picture does not appear on TV screen.	The RF output channel is set to "--" (RF OFF).	Set the RF channel to a setting other than "--" (RF OFF). See page 15.	
Preset Download cannot be performed.	The VCR is not connected to **a TV equipped with "NEXTVIEWLINK", "Easy Link" or "Megalogic" facility using the fully-wired 21-pin scart cable.**	Connect the VCR to **a TV equipped with "NEXTVIEWLINK", "Easy Link" or "Megalogic" facility using the fully-wired 21-pin scart cable.**	

The satellite receiver cannot be controlled correctly

SYMPTOM	CAUSE	REMEDY	CHECKED
The Satellite Receiver cannot be controlled.	The Satellite Receiver is not connected correctly to the VCR.	Connect the Satellite Receiver correctly. See page 14.	
	The settings on pages 18–20 for receiving satellite broadcasts are not correct.	Perform the settings on pages 18–20 again correctly.	
	The receiver in use is not on the attached list of compatible satellite receivers.	These settings are supported only by the satellite receivers found on the attached list of compatible satellite receivers.	

Playback will not operate correctly

SYMPTOM	CAUSE	REMEDY	CHECKED
Picture noisy or not in colour. Horizontal bars or lines run down the screen.	Tracking is not correct.	Adjust the tracking. See page 7.	
	TV set is not tuned to VCR.	Tune the TV to your VCR. See page 15.	
	Video heads are clogged or worn.	Consult your dealer for further advice. Head cleaning by service agent is not covered by warranty.	

Recording will not operate correctly

SYMPTOM	CAUSE	REMEDY	CHECKED
"⊡" indication flashes whenever recording is attempted.	Erasure prevention tab on cassette is broken off.	Use the video cassette with intact erasure prevention tab, or cover tab hole with adhesive tape, if original recording is no longer required.	
Picture is recorded with noise or blank screen.	Aerial or aerial lead is defective.	Check aerial connection to VCR. See page 12. Check your normal TV picture. If there is no picture, check your aerial.	
	VCR is not correctly tuned.	Re-tune VCR. See pages 36–39.	
	A1, A2 or A3 is selected.	Select the required TV programme.	
Direct TV REC cannot be performed.	The VCR is not connected to **a TV equipped with "NEXTVIEWLINK", "Easy Link" or "Megalogic" facility using the fully-wired 21-pin scart cable.**	Connect the VCR to **a TV equipped with "NEXTVIEWLINK", "Easy Link" or "Megalogic" facility using the fully-wired 21-pin scart cable.**	
Timer recording cannot be performed.	Clock or calendar is incorrectly set.	Check clock and calendar. Set to present time. (Note this is a 24 hour clock.) See page 42.	
	Recording start or end time setting is incorrect.	Set recording start and end time correctly.	
	VCR is not set for timer recording.	Press **TIMER REC** after programming for timer recording.	
AV external recordings cannot be made.	A1, A2 or A3 is not selected.	Select A1, A2 or A3 by pressing **INPUT SELECT**.	
	External AV connections are incorrect.	Check that connections for external video and audio source are correct. See page 32.	

Remote controller will not work correctly

SYMPTOM	CAUSE	REMEDY	CHECKED
Remote controller does not operate correctly.	Remote controller transmitter beam is not reaching VCR.	Ensure that remote controller is being pointed at VCR and that transmitter beam is not obstructed.	
	Distance is too far.	Use remote controller within 7 m of VCR. If this range is not possible, replace batteries.	
	Batteries are exhausted.	Replace batteries. Note precaution for replacement on page 8.	
	Batteries are incorrectly fitted with (+/−) reversed.	Fit batteries correctly as shown on page 8.	

Precautions

Please read these cautions before you operate this VCR.

Avoid Sudden Changes in Temperature

If the VCR is suddenly moved from a cold place to a warm place, condensation may form on the tape and inside the VCR.

Humidity and Dust

Avoid places where there is high humidity or much dust, which may cause damage to internal parts.

Do Not Obstruct the Ventilation Holes

The ventilation holes prevent abnormal increases in temperature. Do not block or cover these holes. Especially avoid covering the holes with soft materials such as cloth or paper.

Keep away from High Temperature

Keep the VCR away from extreme direct heat such as direct sunlight, heating radiators, or closed automobiles.

Keep Magnets away

Never bring a magnet or magnetized object near the VCR because it will adversely affect the performance of the VCR.

No Fingers or Other Objects Inside

Touching internal parts of this VCR is dangerous, and may cause serious damage to the VCR. Do not attempt to disassemble the VCR. There are no user serviceable parts inside.

Keep Water away

Keep the VCR away from flower vases, tubs, sinks, etc. CAUTION: If liquids are spilled into the VCR, serious damage could occur. If you spill any liquid into the VCR, consult qualified service personnel.

Cleaning the VCR

Wipe the VCR with a clean, dry cloth. Never use cleaning fluid, or other chemicals. Do not use compressed air to remove dust.

Stacking

Place the VCR in a horizontal position, and do not place anything heavy on it.

Video Head Clogging

The video heads place picture signals on the tape during recording and read picture signals from the tape during playback and they are, therefore, of critical importance for the picture quality. If the VCR is used over extremely long periods of time, these heads may become dirty and clogged. In such a case, the signals can no longer be recorded correctly, and the playback picture will be distorted accordingly. This is the case, for example, during the playback of a tape, the sound is reproduced normally, but no picture is seen, or the picture is greatly distorted. When such a symptom case occurs have the recorder checked by qualified service personnel.

Head cleaning by service agent is not covered by warranty.

Condensation may form in the VCR if:

- The VCR is in a room where the heater has just been turned on.
- The VCR is in a room with steam or high humidity.
- The VCR is brought from cold surroundings into a well-heated room.
- The VCR is suddenly brought from cool surroundings, such as an air-conditioned room or car, to a place which is hot and humid.

Note:
Do not operate the VCR for at least 1 hour if any of the above conditions occur.
This VCR does not incorporate a dew sensor.

Tape Care

Some do's and don'ts on tape care.

DO:

1) Use a good quality branded tape, such as Panasonic.
2) Keep in the Box supplied with your tape, or a video case, when not in use.
3) Try to use all the tape on a cassette by making recordings not only at the tape start but also in the middle and end sections. This will avoid many repeated recordings at the beginning of the tape resulting in premature wear.
4) Take care to insert a tape correctly into the VCR to avoid damage.

DO NOT:

1) Expose the tape to high humidity or temperature.
2) Expose to liquid.
3) Expose to dust particles by storing directly on a carpet for example.
4) Use a damaged tape or attempt to repair.
5) Dismantle the cassette housing.
6) Attempt to lift the front cassette flap or touch the tape surface.

Specifications

NV-HD625B...(U.K. model)

Power Source:	220–240 V AC 50/60 Hz
Power Consumption:	22 watts

Video Recording System:	2 rotary heads, helical scanning system		
Video Heads:	4 heads		
Audio Heads:	2 heads (Hi-Fi)		
Tape Speed:	SP; 23.39 mm/sec.		
	LP; 11.7 mm/sec.		
Tape Format:	VHS tape		
Record/Playback Time:	SP; 240 min. with NV-E240		
	LP; 480 min. with NV-E240		
VIDEO			
Television System:	CCIR; 625 lines, 50 fields, PAL colour signal		
Modulation System:	Luminance; FM azimuth recording		
	Colour signal; converted subcarrier phase shift recording		
Input Level:	AV1/AV2;	1.0 Vp-p,	75 ohm, terminated
	VIDEO IN (AV3) (PHONO);	1.0 Vp-p,	75 ohm, terminated
Output Level:	AV1/AV2;	1.0 Vp-p,	75 ohm, terminated
	RF Modulated;	UHF channel 21–69,	75 ohm
AUDIO			
Input Level:	AV1/AV2;	−6 dBV,	more than 10 kohm
	AUDIO IN (AV3) (PHONO);	−10 dBV,	more than 47 kohm
Output Level:	AV1/AV2;	−6 dBV,	less than 1 kohm
	AUDIO OUT (PHONO);	−6 dBV,	less than 1 kohm
Audio Track:	1 track (Normal-mono only), 2 channels (Hi-Fi sound-stereo)		
Video Horizontal Resolution:	Colour; more than 240 lines (SP)		
Signal-to-Noise Ratio:	Video; more than 43 dB (SP)		
Dynamic Range:	Audio; more than 90 dB (Hi-Fi audio track)		
Audio Frequency Response:	20 Hz–20 kHz/Hi-Fi		
Wow and Flutter:	0.005% Wrms/Hi-Fi		
Operating Temperature:	5°C–40°C		
Operating Humidity:	35%–80%		
Weight:	4.6 kg		
Dimensions:	430 (W)×99.9 (H)×319.5 (D) mm		
Standard Accessories:	1 pc. RF Coaxial Cable		
	1 pc. Remote Controller		
	2 pcs. "R6" size batteries		
	1 pc. AC Mains Lead		
	1 pc. Jack Cover		

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.